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ABSTRACT

This compilation lists research completed in the areas of health, physical education, recreation, and allied areas during 1977. It is arranged in three parts. The index provides cross references for all listings in the second two parts, arranged under subject headings in alphabetical order. A bibliography gives a listing of published research, citing articles published in the 169 periodicals reviewed by the Committee for Completed Research. In the final section, abstracts of master's and doctor's theses from institutions offering graduate programs in health, physical education, and recreation are presented. Names of institutional representatives sending in theses abstracts are indicated in parentheses after the name of the institution. (Editors/JD)

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1978-79

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INTRODUCTION

This compilation lists research completed in the areas of health, physical education, recreation, and allied areas during 1977. It is arranged in three parts.

I. **Index.** In this section, cross references are given for all the listing in Parts II and III. References are arranged under the subject headings, which are in alphabetical order. Instructions for using the index are given at the top of page 1.

II. **Bibliography.** This is a listing of published research, citing articles published in the 169 periodicals reviewed by the Committee for *Completed Research*. The periodicals reviewed are listed in pages 346 through 348.

III. **Theses Abstracts.** These are master's and doctor's theses from institutions offering graduate programs in health, physical education, recreation, and allied areas. Institutions reporting are listed on pages 349 through 353. Most references are accompanied by abstracts of the research and all are numbered in alphabetical order according to the institution. Names of institutional representatives sending in theses abstracts are indicated in parentheses after the name of the institution, major professors are in parentheses after each reference.

Universities and colleges are encouraged to submit abstracts of theses completed at their institutions in the year 1978 for inclusion in the next issue of *Completed Research*. Material should be sent to Jerry R. Thomas, Chairman for Theses Abstracts.

Jerry R. Thomas
Louisiana State University
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New York University
Co-Chairmen
Committee on Completed Research

PART I—INDEX

This index enables the reader to refer to the items of completed research listed in Parts II and III. Research topics are arranged in alphabetical order. The reference numbers following each topic correspond to the listings of completed research dealing with that topic. The capital letter B indicates a reference to be found in the Bibliography (Part II); the capital letter T indicates a reference to be found in the Theses Abstracts (Part III).

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PART III/THESES ABSTRACTS

ABBREVIATIONS APPEARING IN THIS PUBLICATION:

AAHPER = American Alliance for Health, Physical Education, and Recreation (abbreviate all familiar organizations, e.g., AAU, NCAA, etc.)
AD = Athletic Director
AE = Absolute Error (CE = Constant Error, VE = Variable Error)
ANCOVA = analysis of covariance
ANOVA = analysis of variance
BP = blood pressure
BTPS = body temp pressure saturated
C = centigrade
CA = chronological age
CO_2 = carbon dioxide
X^2 = chi square
o = degrees
DEPT = department
ELE = elementary
EKG = electrocardiogram
EMG = electromyogram
EMR = educable mentally retarded
exp = experiment or experimental
F = Farenheit
F = *F* ratio
FEV 1.0 or 2.0 = forced expiratory volume
gm = gram
GPA = grade point average
HE = health education, health
ht = height
HR = heart rate
IQ = intelligence quotient
JC = junior college
JHS(S) = junior high school(s)
kg = kilogram
kg/m = kilogram per meter
kpm/min = kilopondmeter per minute
KR = knowledge of results
max = maximum or maximal
measurements, units of*
MS = middle school
mm = millimeter
mph = miles per hour
msec = millisecond(s)
MT = movement time
no. = number (in text, e.g., the total no. of days . . .)

N = number (e.g., of *S*s) all numbers in arabic form (e.g., 1 = one, 5 = five, 100 = one hundred)
N_2 = nitrogen
O_2 = oxygen
p = probability ($p < .05$ = significance greater than .05 level, $p > .01$ = nonsignificance at the .01 level)
PE = physical education
PR = pulse rate
PWC$_{170}$ = physical work capacity, PWC (level of HR unspecified)
% = percent
psi = pounds per square inch
r = correlation
REC = recreation
RLV = residual lung volume
rpm = revolutions/min
RT = reaction time
SV = stroke volume
SD = standard deviation
SHS = senior high school(s)
STPD = standard temp pressure dry
S(s) = subjects; *S*'s = subject's (possessive; fresh, soph, jr, sr)
t = *t* ratio
tests**
temp = temperature
TRT = total response time (RT + MT)
US = United States
USSR = Union of Soviet Socialist Republics
wt = weight
VO$_2$ = oxygen uptake
V_E = ventilation equivalent
$\overline{X}$ = mean
V_T = tidal volume
YMCA = Young Men's Christian Association
YMHA = Young Men's Hebrew Association
YWCA = Young Women's Christian Association

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*in. = inch; sec = second; wk = week; hr = hour; min = minute; mo = month; ml = milliliter; oz = ounce; yd = yard, etc.

**Abbreviate all kinds of performance tests if possible (e.g., CPI = California Psychological Inventory; Cattell 16 PF = Cattell 16 Personality Factor Questionnaire; MMPI = Minnesota Multiphasic Personality Inventory).

ABSTRACTS

BRIGHAM YOUNG UNIVERSITY (Don Shaw)
PROVO, UTAH

1. BERRYHILL, Larry W. A history of law suits in physical education, intramural and interscholastics in the Western United States: Their implementation and their consequences. Ed.D. in Physical Education, 1976. (B. Jarman)

This study was concerned with gathering and analyzing court cases which dealt with PE or athletics that have appeared at the Supreme or Appellate Court level of the western US from the year 1926 to 1975. To solve this problem it was necessary to divide it into the following subproblems: to investigate the law suits in PE and athletics, and to discuss the consequences and implications of each litigation for PE and athletics. This study was accomplished by utilizing the historical technique of research. Court cases which involved PE or sports that have reached the Appellate or Supreme Court from 1926 to 1975 were taken from the various State and Area Reporters.

2. CHATTERTON, Mark R. A feasibility study for the development of a recreational vehicle camp in Provo Canyon, Utah. M.A. in Recreation Education, 1977. (W. Hafen)

Administration of a questionnaire during the months of August and September, 1976 was done to determine what type of facilities, program, location, and fees schedule for a REC vehicle campground participants considered desirable and necessary and to outline a suggested guideline of development from their recommendations. The results showed that participants usually traveled in groups of 2 to 4 coming mainly from UT. They were mostly retired travelers with professional, semi-professional, and skilled workers all nearly equal in no. of travelers using the canyon. The participants traveled in all types of REC vehicles, but mainly in travel trailers and desired many facilities and services that were tested on the questionnaire. The suggested guideline for development outlines the location, camp restrictions, facilities and services, with respect to: general campground, campsites, camp lodge, camp services, programming, fees, and campground operating time. This data indicates that it is feasible to develop the campground.

3. DANCE, Alan R. An evaluation of the undergraduate core curriculum: Brigham Young University Recreation Department. M.A. in Recreation Education, 1977. (B. Olsen)

Evaluation of the undergraduate core curriculum of the BYU REC Department was performed by utilization of a questionnaire to survey 318 alumni. The total return was 49.4%. The following findings and conclusions were made: Of the 143 alumni responding, only 57, or 39.9%, were working in the field of REC. The alumni felt adequately prepared for REC employment in the competency areas of history, theory, philosophy and the professional laboratory experience but less than adequately prepared in REC and park services, special services and administration. The core curriculum competency areas of the most importance to alumni now were leadership, programming and the professional laboratory experience. Of the least importance were history, theory, philosophy and recreation and park services. To the question, "Do you feel the core curriculum has any inadequacies?" 98 alumni, or 68.5%, responded "yes," 12, or 8.4%, said "no," 21, or 14.7%, had no opinion and 12, or 8.4%, did not respond.

4. GOINS, Janelle M. An investigation of student reactions to the teaching skills and course content of beginning social dance. M.A. in Recreation Education, 1977. (J. Naylor)

Investigation of the reactions of students in regards to the teaching skills of instructors and the course content and instructional media of PE 180, Beginning Social Dance, was of importance in this study. Teaching skills and course content were considered separately. The data collected indicated instructors were scholastically prepared and better than adequate in their instruction of beginning social dance. The present dance program should be continued as is with some exception. The text should be altered to better fit the course, the text should be more emphasized within the course, or another text should be suggested.

5. GOINS, Luther C. An analysis of the recreation program and facilities for the city of Taylor, Michigan. M.A. in Recreation Education, 1977. (B. deHoyos)

A survey was conducted to determine the existing REC programs and facilities in the city of Taylor, Michigan. The desires of the citizens of Taylor for new REC programs and facilities were also determined. Other problems considered were ages and sex of participants. The data collected indicated that less than half the population was involved in programs and facility use. Responses indicated that ice skating, tennis instruction, and softball programs should be expanded and that golf instruction, ceramics and bicycling should be added to present programming. New facilities development should include bicycling and jogging trails, and lighted tennis courts.

6. HENCHEN, Hans. A manual for teaching soccer at the elementary school level. M.S. in Physical Education, 1977. (W. Cryer)

A teaching manual for soccer at the ELE school level was developed. A pilot study in the form of a questionnaire, inquiring about the schools' familiarity and attitudes concerning soccer, was constructed and sent to 155 ELE school principals in the state of UT. The analysis of the responses given by the principals confirmed the assumption of the researcher that there was a need for a written teaching aid. The teaching manual was designed to provide a teaching tool for ELE school PE teachers to assist them in being more successful in teaching the international sport of soccer. The book explains and illustrates basic skills such as passing, trapping, heading, shooting, dribbling and goal tending.

7. HOBART, Wanda. Employment value of a terminal associate degree in municipal recreation. M.A. in Recreation Education, 1977. (W. Hafen)

Determination of the employment value of a terminal associate degree in municipal REC was attempted. The sample was comprised of 8 community college REC educators and the respective city REC directors of the state of CA. The data were collected by interview-schedule, keypunched, and then run on a STAT 08 program. The results showed the associate degree recipient to be employed in lower supervisory positions with limited possibilities of advancement. Municipal REC directors indicated a preference for a curriculum including administrative courses, specialty areas, and an emphasis in practical experience.

8. JAUSSI, Richard L. The effects of smoking upon lung function. M.S. in Health Science, 1976. (D. Shaw)

Determination of the effect smoking has upon lung function was studied. The following ventilatory functions were measured: vital capacity, forced vital capacity and expiratory reserve volume at 3 secs. This study was conducted using a randomly selected population of 115 smokers who had entered the UT Valley Hospital for tests not necessarily related to respiratory problems. As a control for this study, 110 nonsmokers were randomly selected from a population of patients who had entered UT Valley Hospital for a battery of tests not necessarily related to respiratory problems. The data collected from the sample population were analyzed by ANOVA. The findings indicated that: Smoking does have a significant effect on vital capacity, forced vital capacity, and forced expiratory volume at 3 secs. Age is a contributing factor in lung function changes in smokers. Smoking causes lung function to decrease at all ages.

9. KINGHORN, Donald J. The effect of the BYU Youth Leadership course as a survival experience on the self-acceptance of the participants. M.A. in Recreation Education, 1977. (W. Hafen)

Effects of outdoor survival training on self-acceptance were determined. 37 participants of the BYU Youth Leadership 480 survival course were tested for change in self-acceptance, using the "Index of Adjustment and Values" as a testing instrument. The participants were tested 3 times: immediately preceding a 30-day survival experience, immediately following the experience, and 1 yr following the experience. *t*-test scores and ANOVA scores indicated that both male and female students experienced statistically sig positive change in self-acceptance following completion of the survival experience. Continued positive change was also evident during the yr following the survival experience. This data indicates that the BYU 480 survival course was instrumental in promoting positive change in self-acceptance of the participants.

10. LAMBERT, David M. Criterion analysis of structured and non-structured intramural activities at Brigham Young University. M.A. in Recreation Education, 1977. (J. Naylor)

The effect that selected criteria have upon structured and non-structured intramural activities at BYU was determined. An intramural questionnaire was used to measure a group of Ss responses to questions relating to structured and non-structured intramural activities during the winter semester of 1977. Certain selected criteria--marital status, level of skill, yr in school, and academic pursuit--were examined in relation to structured and non-structured intramural activities at BYU. The findings showed that there was a sig *r* between level of skill and participation in structured and non-structured intramural activities. It was also indicated that a student's yr in school had no sig correlation with regard to structured and non-structured intramural activities. Marital status showed a sig *r* with non-structured intramural activities, but showed no sig r with structured intramural activities. Academic pursuit, however, had a sig r with structured intramural activities, but had no sig r with nonstructured intramural activities.

11. MEYER, Henry L. Ascorbic acid supplementation and overall fitness level: their role in the prevention and/or amelioration of common cold symptoms. M.S. in Health Science, 1977. (O. Burgener)

The null hypothesis was tested which stated that ascorbic acid supplementation and overall fitness level moderated by sex and/or cold type have no sig effect on the incidence, duration, severity, or intensity of common cold symptoms. The study was conducted from 19 January until 7 April 1977 and included 170 student volunteers. Ss, randomly stratified by sex and overall fitness level as determined by Cooper's 1.5 mile test, received 1 gm daily of either ascorbic acid (U.S.P.) or placebo. Ascorbic acid supplementation and overall fitness level had no statistically sig effects ($p > .05$) on cold characteristics exhibited by male, female, and combined Ss. Several trends were noted, however, none statistically sig. Ascorbic acid supplementation had a slightly beneficial effect on the amelioration of common cold symptoms. Overall fitness level in males had a negative r with the prevention and amelioration of common cold symptoms. Overall fitness level in females had a positive r with an ameliorative effect. Male Ss had slightly fewer, shorter, and less severe colds than did females.

12. NEAL, Donald E. The prognosis of ataxia-telangiectasia under conditions of complete and partial thymectomy of the neonatal and juvenile albino rat. M.S. in Health Science, 1976. (R. Rhodes)

The effect of thymectomy on the growth pattern and selected organ systems of the albino rat in an attempt to produce the disease Ataxia-Telangiectasia was determined. The sample group consisted of 58 albino rats divided into 4 treatment groups--normal controls, sham operates, partially thymectomized and completely thymectomized animals. Under nembutal anesthesia the thymus was excised from neonatal rats. At 50 days of age the animals were sacrificed. Selected organ systems were sectioned and stained for microscopic study and comparison. It was found that thymectomy had an effect on the cerebellum in that the Purkinje cells were necrotic; the lungs showed extensive atelectasis, and the lumen of the blood vessels of the brain, heart, lung were enlarged and tortuous in appearance. There was sig statistical diff between normal controls and operates in their growth patterns. These results parallel the symptoms found in humans. It was concluded from this study that ataxia-telangiectasia was produced in thymectomized rats.

13. NELSON, Arnold S. A comparison of the effects of maximal eccentric and orthodox weight training on muscular hypertrophy, muscular strength, and muscular power. M.S. in Physical Education, 1977. (L. Silvester)

The effects of max eccentric and orthodox wt training on muscular hypertrophy, muscular strength, and muscular power were compared in this study. 31 male Ss in beginning wt training classes were randomly assigned to 2 groups. The orthodox training group did 3 sets of 6 reps at 80% of the 1 rep max for the bench press and 85% of the 1 rep max for the squat. The eccentric training group did 3 sets of 2 reps at 120% of the 1 rep for the bench press and 140% of the 1 rep max for the squat. For the eccentric, 2 spotters lifted the wt on the bench press and 2 hand powered winches lifted the wt for the squat. The Sx were pre- and post-tested for muscular strength, power, and hypertrophy. Both training groups experienced increases in each of the 3 areas tested. ANOVAs and MANOVAs failed to show any sig diffs between the 2 groups for the discovered increase.

14. NELSON, Dexter S. A comparative evaluation of the athletic therapy program for senior high schools in Calgary, Alberta. M.S. in Physical Education, 1977. (E. Roundy)

The adequacy of the athletic therapy programs for SHS in Calgary, Alberta was evaluated. An instrument was devised which measured the status of the athletic therapy programs (1976-77 school year) in the 19 Calgary SHS. Subsequently a minimum standard was set by randomly selecting and surveying 25 Canadian athletic therapy experts. A comparison was then made between each school and the standard as set by the experts. Compared to the standard, the mean of each category of the instrument for the 19 schools was found inadequate ($p < .01$). It was concluded that in all 6 categories of variables, all the schools' athletic therapy programs were inadequate compared to the standard established by experts.

15. OKON, Leo E. Physical education and athletics in univertities and colleges in Nigeria: developing a score card for evaluation of facilities, program and administration. Ed.D. in Physical Education, 1977. (B. Jarman)

A score card to evaluate PE facilities, program and administration of PE and athletics in Nigerian universities and colleges offering major or minor courses in PE was developed. 8 schools were involved on a jury of experts in criticizing the score card and making recommendations, and 4 schools were involved in actual evaluation. A panel of experts at the BYU Dept of PE also contributed to major developments of the score card by their critical comments and structured recommendations. Comparisons were made between schools. Weaknesses and strengths of each program were analyzed and recommendations made for improvements. From the analysis of data, it was found that of the 10 divisions, only 2 divisions received a rating of good and above. The rest fell between average and poor. There is much to be done in developing and improving PE facilities and programs in Nigerian colleges and universities. A recommendation was made based on the finding for the improvement of the program and for constant evaluation of the facilities, program and administration of PE in Nigeria.

16. OLSEN, Carl B. The effect of aspirin on the healing rate of artificially induced muscle trauma in adult male rats. M.S. in Health Science, 1977. (R. Watters)

The nature of this study was to determine the effect aspirin had on the healing rate of muscle tissue in adult male rats. Specifically, through a gross and histological examination of healing rates, a group of adult rats were assigned to 4 groups: group I-aspirin and trauma, group II-no aspirin and trauma, group III-aspirin and no trauma, and group IV-no aspirin and no trauma. Rats were traumatized by a specially designed machine which standardized wounds in all rats receiving trauma. Also, the rats were assigned to 1 of 3 levels of aspirin dosages: massive dose=200 mg/kg of rat body wt, moderate dose=100 mg/kg of rat body wt, and no aspirin. The following conclusions were made: medium aspirin doses healed similarly to the no aspirin group but with less inflammation; massive aspirin doses caused sporadic healing but better overall healing than the other 2 doses both grossly and histologically; the traumatizer was an effective wound producer; and the most rapid healing rate period was from wk 3 to wk 5 histologically.

17. ORGILL, Lynn D. A somatometrical analysis of the vastus medialis in knee extension. M.S. in Physical Education, 1977. (R. Francis)

The function of the vastus medialis and its relation to the other quadriceps muscle in knee extension was investigated through the use of resistive exercise and circumferential measurements. 60 Ss were randomly assigned to 3 groups, 2 treatment groups and a control group. Group A lifted wts on the Universal Gym thigh and knee machine, from 165° to 180° of leg extension. The other treatment group (B) only completed leg extension from 90° to 165° at which point a cable prevented further movement. ANOVA on the diffs was the statistical procedure utilized in this study. The following conclusions were made from this study: The hypertrophy gains of Group A support the hypothesis that the vastus medialis does have a selective action in completing knee extension. A program of full extension when exercising the quadriceps would be most beneficial for strengthening all components of the quadriceps muscle.

18. PERRENOUD, Ronald L. The influence of the instructor's skill level on motor skill development in beginning students. M.S. in Physical Education, 1977. (L. Silvester)

The relationship of motor skill level to motor skill learning was determined. This study was conducted using a randomly selected population of 149 students and 8 instructors at the BYU. The data collected were analyzed by using r and R. The findings indicated that: Constructive criticism has a high r to motor skill learning. A class bowling average can be computed by a prediction equation. The bowling average of the instructor has a low r to the learning of beginning students.

19. PORTER, David T. The effects of the heart rates of head and assistant head basketball coaches during game situations. M.S. in Physical Education, 1977. (P. Allsen)

The effects on the HR of head and assistant head basketball coaches during game situations was determined. ANOV was utilized to find any sig diff between the HR responses of head and assistant head basketball coaches with respect to % above resting HR and % of max HR. 9 sets of coaches were monitored for 2 games each through the use of radiotelemetry in an effort to accurately determine stress levels for the 2 types of coaches. Games monitored were both home and away, conference and non-conference with no attention given to type or place of the game. Conclusions in this study were: There was a sig diff between the stress HRs of the head and assistant head coach during game situations. The mean stress HRs of the selected head coaches were high enough to indicate a possible stress on their cardiovascular system.

20. ROLIDER, Amos. A curriculum for the preparation of physical educators at the Hebrew University in Jerusalem. M.A. in Physical Education, 1977. (B. Jarman)

An original, meaningful curriculum for the training of physical educators at the Hebrew University of Jerusalem was developed. The curriculum was prepared for the professional preparation of undergraduate students teaching at the ELE and secondary levels. The procedure included extensive study of professional preparation of physical educators in selected universities in the US, professional preparation of physical educators in Zinman College of PE at the Wingate Institute, Israel, and existing programs and conditions at the Hebrew University. The information and data for the study were obtained through library resources, correspondence with Israeli PE authorities, and through the writer's visit to the Hebrew University during the study period. Suggestions and recommendations were made by members of the BYU faculty of PE. The proposed curriculum was evaluated and approved by a panel of experts as being valid for its implementation at the Hebrew University in Jerusalem.

21. SCHMIDT, Louis F. A study to determine the feasibility of building an intramural complex at Brigham Young University. M.A. in Recreation Education, 1976. (B. deHoyos)

The desires of students and faculty members at BYU in order to determine the need for building an intramural complex at BYU were investigated. A questionnaire was developed to cover the main problem and all subproblems, and was administered to 200 students and 100 faculty members at BYU. The data collected indicated that the students and faculty members at BYU definitely want more facilities for intramurals and free play. Responses indicated that they would like to have a new intramural complex built. The study also indicated the majority of people would like to see the complex located on the old baseball diamond just north of the Richards PE building. Lastly, responses did not favor student or faculty fees to be assessed in order to pay for this type of facility, thus deeming it financially unfeasible to build an intramural complex.

22. SILVESTER, L. Jay. A comparison of the effect of variable resistance and free weight training programs on leg strength, vertical jump, and thigh circumference. Ed.D. in Physical Education, 1976. (P. Allsen)

The effect of variable resistance was compared to free wt training programs on leg strength, vertical jump, and thigh circumference. 79 male students were assigned randomly to 4 groups as follows: group C did sqauts with 80% of the 1 RM. The routine followed was 3 sets of 6 reps. Group N exercised on the Nautilus Compound leg machine. Group O did squats with 80% of the 1 RM. Their exercise routine was one set of 6 reps followed by 1 set of reps to failure. Group U exercised on the Universal Dynamic Variable Resistance leg press station. Pre-, mid-, and post-tests were administered on various muscle groups. Through an ANOVA and Newman-Kuels sequential range test sig diffs were found and the following conclusions drawn: all training systems caused sig strength gains in all strength measures, group C gained sig more right hip extension strength than group N, group C, O, and U improved in vertical jump while group N did not, and thigh circumference of the treatment groups was not sig diff over the exp period.

23. TRANE, Randy K. A comparison of the personality traits of tennis coaches: a study to identify the personality characteristics of successful men's tennis coaches and to compare these to unsuccessful men's tennis coaches. M.S. in Physical Education, 1977. (E. Roundy)
Personality characteristics of successful men's tennis coaches at the HS and college levels were identified and compared to the personality characteristics of unsuccessful men's tennis coaches at the HS and college levels. Self-concepts of coaches and perceptions of players determined the ratings of the coaches in the study. The data was gathered from 63 questionnaires returned from coaches and team players. The semantic differential rating scale was used in this study. The data obtained from the questionnaires were analyzed and compared by using a t-test. Within limitations of the study, the following major conclusions are justified. Successful and unsuccessful team players' perceptions of their coaches and of an ideal coach were viewed very similarly. Successful coaches viewed themselves as being louder and more rash than unsuccessful coaches. Successful coaches viewed an ideal coach as being more serious and unusual than an unsuccessful coach viewed an ideal coach.

24. TRYTHALL, Robert C. Organizational guidelines for an effective intramural program on the collegiate level. M.A. in Recreation Education, 1977. (W. Hafen)
What constituted an effective collegiate intramural program was determined. The data were obtained from a population which consisted of intramural directors from 8 universities

in the western US with an enrollment exceeding 16,000 students. These directors responded orally to a written questionnaire designed to obtain the following: the types of intramural programs offered and how they were financed; the most effective staff organization; the types of facilities needed and how they were best utilized; and guidelines for an effective collegiate intramural program. The following conclusions were made: There was a definite need for intramural programs to be administered by one trained in the profession who has a firm conviction of the importance of intramurals. Intramural activities need to be selected on the basis of student interest, season of yr, size of staff, available facilities, and available finances.

CALIFORNIA STATE COLLEGE (Phil Rasch)
DOMINGUEZ HILLS, CALIFORNIA

25. GARRISON, Frances V. Musclemen: An enthnography of body builders. M.A. in Behavioral Science. (A. Ryave)

CALIFORNIA STATE UNIVERSITY (Warren J. Boring)
LONG BEACH, CALIFORNIA

26. ANDERSON, Paul G. A survey of rugby union football in American universities. M.A. in Physical Education, 1977, 75 p. (D. Toohey)

27. BRUGGEMAN, Mary A. Relationship between self-concept and the ability to learn a novel motor skill. M.A. in Physical Education, 1977, 93 p. (J. Rose)

28. CARBERRY, Susan A. Directors of women's athletics in higher education. M.A. in Physical Education, 1977, 81 p. (J. Comer)

29. CARTER, Stuart. The history of rugby union football in New Zealand. M.A. in Physical Education, 1977, 101 p. (D. Toohey)

30. COLE, Daniel H. Selected factors involved in Olympic dominance. M.A. in Physical Education, 1977, 96 p. (D. Toohey)

31. DIDINGER, Charles T. The effects of pulley-weight training on surfboard paddling. M.A. in Physical Education, 1977, 40 p. (W. Boring)

32. EVANS, Edmund E. Comparison of off-season high school football programs in Southern California. M.A. in Physical Education, 1977, 100 p. (J. Comer)

33. GOLGART, Gregory J. Estimating maximal oxygen consumption from a step test. M.A. in Physical Education, 1977, 74 p. (T. Bigelow)

34. GRANT, John C. The relationship between physical performance and personality. M.A. in Physical Education, 1977, 57 p. (W. Sinclair)

35. HEBEL, Susan L. Selected physical training effects of female basketball players. M.A. in Physical Education, 1977, 88 p. (W. Boring)

36. IRWIN, Scot. Premature ventricular contractions during exercise testing and their relationship to coronary artery disease. M.A. in Physical Education, 1977, 91 p. (J. Mastropaolo)

37. KATHAN, Terry D. The effect of family sports environment on boys participating in high school athletics. M.A. in Physical Education, 1977, 52 p. (J. Comer)

38. KNOX, Donna. The effect of stride on the velocity of the softball pitch. M.A. in Physical Education, 1977, 51 p. (J. Mastropaolo)

39. LoSASSO, Mary A. Minimum standards guideline for corrective therapy clinical training in spinal cord injury. M.A. in Physical Education, 1977, 250 p. (W. Crowe)

40. LUPCHO, Paula R. Culture and sport. M.A. in Physical Education, 1977, 156 p. (D. Toohey)

41. PRINDLE, Donna L. The effects of rope jumping and jogging on cardiovascular endurance of college men and women. M.A. in Physical Education, 1977, 62 p. (J. Comer)

42. WELLS, Patricia K. Badminton for teachers and coaches. M.A. in Physical Education, 1977, 315 p. (M. Miller)

CENTRAL MISSOURI STATE UNIVERSITY (M. Lyon)
WARRENSBURG, MISSOURI

43. DEATRICK, Deborah J. The use of the Apollo Exerciser in improving softball throwing ability in seventh grade girls. M.S. in Education, 1977, 46 p. (A. Martin)
A pre-test and a post-test of throwing velocity were administered to 3 groups. Group I (N=17) trained by using the Apollo Exerciser. Group II (N=25) trained by throwing softballs and Group III (N=27) participated in the regular daily PE program. After a 5 wk training session ANCOVA indicated no sig diffs existed between groups.

CHADRON STATE COLLEGE (T. Colgate)
CHADRON, NEBRASKA

44. CAWIEZEL, Selen L. An investigation of the effect of the physical biorhythm on skill performance. M.S. in Education, 1977, 43 p. (T. Colgate)
30 Ss were each tested 12 times to determine the effect the physical biorhythm had on the performance of a reliable dart throwing test of 40 throws. Each S's 3 score total of 40 dart throws per day, on 3 different days, for each of the 4 points of concern was averaged and was considered the criterion measure for analysis. An ANOVA was used to treat the data and indicated that the skill performance of a selected group of college men and women (N=30) was not sig (p=.05) effected by the high, low, crossing going up, or crossing going down points in their physical biorhythm cycle.

45. SMITH, Bradley R. A comparison of coaches' subjective evaluation of personality traits of athletes to actual personality trait scores as measured by the sixteen personality factor questionnaire. M.S. in Physical Education, 1974, 53 p. (T. Colgate)
An investigation to determine the ability of the CSC football, baseball, and track coaches to correctly identify the personality characteristics of their athletes as determined by the 16 PF Questionnaire. The Ss were 38 football players, 19 baseball players, 12 trackmen, and 1 coach from each sport. Each S was administered the personality questionnaire with results being converted to standard scores which were then plotted with each S's name and administered to the coaches. Coaches rated each S's personality trait as associated with each S's sport. Analysis of the data found that the track coach and the football coach correctly identified the personalities of their respective players while the baseball coach failed to identify the personalities of his players.

46. WATSON, Rick E. The establishment of norms for the Nebraska physical fitness test. M.S.E., 1977, 104 p. (T. Colgate)

The test items for the Neb ELE Physical Fitness test are standing long jump or vertical jump, 50 yd dash, situps, stick jump, and 300 yd distance run. The items for the secondary test are pull-ups or flexed-arm hang, 50 yd dash, standing long jump, side step, situps, and 1 mile or 9 min run or 1½ mile or 12 min run. A random sample of schools in Neb (1%) was selected to participate in the establishment of these norms. The norms were established for each test item for girls, boys and the group according to chronological age. Percentile tables were constructed. Based on the results of the investigation, the following recommendations were formulated: There should be a test item included in the ELE test, grades 1-6, to evaluate shoulder girdle strength. Norms need to be established for the 1½ mile or 12 min run. The secondary girls need to establish norms for the girls' chinups. The norms for the flexed arm hang for secondary boys needs to be established.

47. WINCHEL, Michael J. Health worries of high school seniors in Madison and Antelope counties in Nebraska. M.S. in Physical Education, 1975, 95 p. (T. Colgate)

A 90-item health worries check list was administered to 473 HS seniors in 10 of the 11 schools in Madison and Antelope counties in Neb. Rank order listings were formulated for the total group--girls and boys. The Mann-Whitney "U" test was used to compare the diffs by sex, age, health insurance coverage, and parents. The Kruskal-Wallis test was used to compute the diffs by occupation and no. of children in the family. The top 5 worries listed in rank order were: cancer, motor vehicle accidents, what I'll be like in 10 or 15 yrs, eye disorders, blindness, and death. Girls have sig more severe worries and worry sig more than boys ($p < .05$). There was no statistically sig diff in comparisons by age, insurance coverage, parents, occupation, or family size.

COLORADO STATE UNIVERSITY (R. D. Clayton)
FORT COLLINS, COLORADO

48. CALIENDO, Patricia H. Correlation between female athletes and coach's perception of athletes. M.Ed., 1977, 62 p. (N. O'Connor)

To determine the relationships that existed between the athlete's self-perception and the coach's perception of the athlete, the General Trait Rating Scale, part I, and the Motivational Rating Scale, part 2, were administered to 90 female HS and college team sport athletes in IL, CO, and CA. All Ss were members of various 1975-76 varsity teams. The tests of significance on the correlation coefficient were indicated at the .05 level. In all cases the r was shown to be sig ($p < .05$). The overall r for part I (GTRS), coaches vs. athletes, was .518. The corresponding overall r for part 2 (MRS) was .159. The results showed that no r existed between the athlete's self-perception and the coach's perception of the athlete. It was concluded that although the test instrument showed overall r's of .708 for reliability and .717 for validity, these scores were not high enough for the test instrument (in its present form) to be valuable for use in testing perceptions between the coach and the female athlete.

49. CIPRIANO, Roberta M. *A cinematographic analysis of overarm lacrosse throwing patterns*. M.Ed., 1977, 78 p. (E. Plese)

To cinematographically evaluate the mechanics of the overarm throwing pattern of women lacrosse players, the following characteristics of the overarm pass and the overarm bounce shot were analyzed: point of release of the ball; arc inscribed by the performer's right hand; arc inscribed by the head of the stick; degree of preparatory movements of the right arm; angular velocities of the throwing movements of the right arm; degree of follow through of the right arm. 3 expert Ss, members of the US Women's Lacrosse Team, were filmed at 200 frames per sec from the right side and from above, simultaneously. 6 trials of each *S*, 3 each of the pass and the shot, were analyzed through the use of a Graf/Pen digitizer and a Hewlett-Packard computer and digital plotter. Results of a sight inspection and ANOVA indicated that, for the Ss of this study, the shot was performed with a greater degree of preparatory movements, more angular displacement, a flatter arc and a more exaggerated follow through than the pass. In addition, at the point of release, the Ss demonstrated a greater amount of shoulder extension, a lesser amount of elbow and wrist extension, and a larger stick angle, in the execution of the shot.

50. FAROS, Christopher D. *Financial aid structures in American colleges and universities*. M.Ed., 1976, 113 p. (P. Gilbert)

To determine the present structure and guidelines that exist among colleges and universities in their granting of financial aid to students and student-athletes, questionnaires developed by the writer were sent to the ADs and financial aid directors of 81 selected institutions representing the 3 NCAA divisions, as well as all ADs and financial aid directors of the member institutions of the Western Athletic Conference. Policies used for awarding aid, revenue sources for financial aid, and factors affecting the awarding of aid were investigated. The questionnaires yielded a 78% return from the ADs and 74% return from the financial aid directors. Results relating to both institutions, and athletic depts were reported. A noticeable no. of "no responses" were reported on many of the questionnaire areas, indicating that the respondents did not understand the question, did not know the answer, or did not wish to divulge the answer.

EAST CAROLINA UNIVERSITY (Robert B. Gantt)
GREENVILLE, NORTH CAROLINA

51. ENGELKEN, Gwen A. The effects of two isokinetic programs on the quadricep mechanism. M.A., 1977, 45 p. (J. Grimsley)

Following static strength measurements of knee extension, Ss (N=31) were placed in 1 of 2 training groups or a control group. Isokinetic knee extension exercises (3 sets of 10 reps) were then conducted on a mini-gym device for 6 wks, 2 sessions wkly. The 2-sec group trained at a velocity of 2 secs per extension while the resistance used by the 4-sec group required 4 secs per rep. Control Ss did not train. Correlated ts used to analyze post-test results revealed that none of the groups made sig gains ($p > .05$) in static strength in knee extension.

EASTERN KENTUCKY UNIVERSITY (Harold Z. Holmes, Jr.)
RICHMOND, KENTUCKY

52. ADAMSON, Catherine L. The energy cost of playing racquetball. Ed.S. in Physical Education, 1977, 46 p. (H. Holmes)

The study estimated the caloric cost of playing racquetball and determined if there was a diff between the energy expenditure of experienced and inexperienced players as they played opponents of similar ability. 10 female Ss were divided into 2 groups of 5 experienced and 5 inexperienced players. The Ss were tested twice while playing racquetball for 15 mins. Results showed a mean energy expenditure of 7.8 kcal/min/55 kg for the experienced group and 5.9 kcal/min/55 kg for the inexperienced group. The overall mean energy expenditure was 6.9 kcal/min/55 kg. The experienced players expended energy at a higher rate than the inexperienced players ($p < .001$). Playing racquetball was categorized as heavy exercise (6.0 kcal/min/55 kg or higher).

53. CURRY, Gregory L. The energy cost of two weight training programs performed by women. Ed.S. in Physical Education, 1977, 43 p. (H. Holmes)
Using 10 female college Ss, the energy cost of programs designed for developing muscular power and muscular endurance were determined using indirect, open circuit calorimetry. Using Weir's formula, the caloric cost of each program was determined. Mean total caloric cost was 31 kcal/55 kg for the power program and 55 kcal or 43 kcal/55 kg for the endurance program. Mean rates of energy expenditure were 4.4 kcal/min or 3.8 kcal/min/55 kg for power and 5.1 kcal/min or 4.4 kcal/min/55 kg for endurance program ($p < .05$ between programs using total caloric cost; $p > .05$ comparing rates of energy expenditure). The diff was attributed to greater amount of time and total work needed in performing the endurance program. The training programs were classified as borderline light to moderate (2.0-4.0 to 4.0-6.0 kcal/min/55 kg).

54. HAGER, Martha J. Development of individualized curriculum materials in beginning field hockey. Ed.S. in Physical Education, 1977, 117 p. (H. Holmes)
An individualized learning packet for beginning field hockey skills, based on pertinent principles of individualized instruction, was developed. Skill and conditioning experiences are emphasized while basic strategy and rules are conjunctively presented. Content is self-paced, learning is incremental, and efficiency in mastery is inherent. Self-responsibility is expected of the learner, and expected objectives and/or criteria of mastery are indicated. Individual activities are paramount while partner and group activities are utilized. The materials are designed to be used by high school or college students. General information and suggestions for the teacher accompanies the learning packet.

55. UMFRESS, Lynda S. The reliability and validity of a basketball skills battery for secondary girls. Ed.S. in Physical Education, 1977, 38 p. (P. Stanaland)
Girls in grades 9-12 (N=174) completed a battery of basketball skills tests during 2 1-week sessions of a summer camp. Reliability coefficients as discerned through a 1-way ANOVA were: shooting (.78), wall pass (.76), obstacle dribble (.86) and land slides (.30). Intercorrelations between tests in the

battery were low. A panel of 5 experienced coaches completed rating sheets for each S in the areas of passing, dribbling, defensive movement and shooting. Kendall's coefficient of concordance was used to determine inter-judge reliabilities of .81 for the 1st wk of camp and .69 for the 2nd wk. The validity coefficient resulting from a calculation of Spearman's Rho was .69. Scores of 28 of 30 all-stars as selected by independent balloting of the 20 coaches and counselors fell in the upper 3rd of all S's scores on the battery.

FLORIDA STATE UNIVERSITY (P. W. Everett)
TALLAHASSEE, FLORIDA

56. BRANDMAN, Russella. The evolution of jazz dance from folk origins to concert stage. Ph.D. in Physical Education, 1977, 638 p. (N. Smith and K. Miller)

Data on origins, traditional and contemporary jazz forms were collected from literary sources, programs, questionnaires, correspondence, interviews, films, live productions and dance classes and were synthesized and given exposition in both narrative and tabular forms. The sources revealed that jazz resulted from the meeting of African and European dance and musical forms in the West Indies and the US. Discussions of the slave trade, pre-jazz and jazz ethnic, social and entertainment forms, jazz technique and some early uses of jazz in concert dance were analyzed to determine a developmental path and to summarize characteristics of traditional forms. Data on 213 contemporary concert dances identified as jazz in Dance Magazine, Dance News, and/or New York Times were collected and synthesized to formulate descriptions which were then analyzed to determine characteristics of contemporary concert jazz choreography. A comparison of characteristics of traditional and contemporary forms revealed that particular types of sources, treatments, structures, or accompaniments could not be established as indicative of jazz choreography concert forms; but that some important relationships exist. The study concludes with an evaluation of its success and suggestions for areas and designs for further research.

57. CHEMA, Hope M. Reaction and movement times of the elderly in relation to peripheral nerve conduction and the central nervous system. M.S. in Movement Science, 1977, 107 p. (J. Thomas)

This study was to investigate whether peripheral functions of the central nervous system (CNS) is primarily responsible for slowed total response time (RpT) in elderly Ss. With the use of electromyographic recordings and a series of timed elbow flexions, RpT was fractionated into the subcomponents of premotor reaction time (PMRT), motor reaction time (MRT), reaction time (RT), and movement time (MT). 3 conditions of progressively increasing peripheral nerve pathway lengths enabled the PMRT scores of 30 elderly women and 30 young adult women to be compared with regard to proportionality. Elderly Ss reflected sig slower PMRTs under all conditions than that of the young adult Ss, although the proportionality between the 2 groups' scores was equal. These results indicate a deficit in the CNS rather than the periphery for slowed PMRTs. Further statistical procedures involved with a MANOVA for PMRT revealed no sig interaction between age group and pathway length. This finding reiterates the concept of slowed CNS information processing. In addition to PMRT, the components of MRT, RT, MT, and RpT were found to be sig slower for the elderly age group. Physiological factors presumably affected the variables of MRT and MT. However, with regard to RpT, more emphasis is put on the initial processing of central information than with subsequent physiological influences.

58. KELLY, John T. Developing and evaluating an alcohol education curriculum and test instrument for Florida public middle schools. Ph.D. in Physical Education, 1977, 166 p. (R. Bishop)

Teachers (N=38) from 4 public school districts were selected to help formulate a curriculum and test instruments. Utilizing a systems approach model, a task analysis was conducted to identify a terminal objective and instructional needs. Instructional learning steps were then developed and written in congruence with the desired terminal objective. Construction of pre- and post-tests to support learning steps followed. Curriculum media and resource materials were selected, analyzed and approved by technical experts--state bureau of alcohol personnel, pilot teachers and students. 2 groups of Ss were involved in the formative stage. This formed the basis for curriculum and tests revision. The mean pre-test score was 11.0 with mean post-test score of 17.1. Following the formative stage 257 Ss were administered the pre-test, curriculum unit, and post-test. The mean score was 12.1 with a post-test score of 18.05. There was a mean gain of 6.04 per student after curriculum use. The financial cost was $782 per curriculum unit, however, many of the instructional materials can be obtained free on loan from community service agencies.

59. KUROWSKI, Thomas T. Anaerobic power of children ages 9 through 15 years. M.S. in Movement Science, 1977, 45 p. (D. Smith)

The effects of age and leg length on the max anaerobic power (MAP) of children, and the possible existence of sex diffs within each age group were evaluated. Male and female children (N=294), ages 9-15 yrs, each performed 10 trials of the Margaria Step-Test following 5 initial practice trials. Test reliability was verified based upon subsequent retest results obtained from ½ of the sample. Mean absolute values for MAP ranged from 29.6 (males) and 23.9 (females) kcal/min in 9 yr olds to 63.7 and 48.8 kcal/min, respectively, in 15 yr olds. Respective relative values were 51.6 and 43.8 to 58.8 and 52.2 kcal/kgxhr. A statistically sig ($p < .05$) sex diff was noted in absolute MAP at ages 11, 14, and 15 yrs. However, when MAP was expressed relative to body wt, no sig diffs were found between males and females. The results also showed that while absolute MAP in males (13-15 yrs) progressed according to age, no corresponding improvement was noted among females. A high r (.71) between MAP and leg length was obtained, suggesting the length of the child's leg to be the main determining factor in the MAP scores. However, in addition to the biomechanical change in leg length, normal psychomotor and biochemical development also contribute to linear increases in absolute MAP until approximately the child's 13th yr. After that, values for males continue to increase, while values for females stabilize.

60. MANSFIELD, Jack W. The validation of the calculations of the endurance time of a maximum hand-grip contraction from the maximum hand-grip strength and the area under a fatigue curve of a submaximal contraction. M.S. in Movement Science, 1977, 20 p. (D. Smith)

This study was to validate the equation which would predict max hand-grip endurance using max strength and the area under the force-time endurance curve. Using a Stoelting hand dynamometer, endurance force-time curves initiated at 60%, 75%, 90% and max strength were recorded from a randomly selected sample (N=120) of FSU male athletes. Regression analysis revealed a sig r (.948) between the predicted max endurance using the 90% max force-time curve and the actual max endurance utilizing the 60% and 75% force-time curves, r (.963) was obtained between predicted max endurance. Using the 3 submax force-time curves, the resultant equation to predict grip-strength endurance was y=146.21 - 2.12 (max grip-strength) - .03 (60% max grip-strength) + .04 (75% max grip-strength) + .08 (90% max grip-strength), with R=.962.

61. MITCHELL, Beverly F. Children's motor responses to precision KR: A neo-piagetian interpretation. Ph.D. in Movement Science, 1977, 226 p. (J. Thomas)

The effectiveness of precision KR in facilitating children's acquisition of a positioning movement was examined within a neo-Piagetian framework. Ss (N=236) were representative of two age groups, with ages in each equivalent to early concrete (8 yrs) and late concrete (10 yrs) developmental stages. In order to screen high (HMP) and low (LMP) M-processors, the Figural Intersections Task was administered to each age group providing 45 Ss within each M-processing group. Ss were then randomly assigned to 1 of 3 KR treatments: no KR (NKR), general KR (GKR), and precise KR (PKR). KR was given following each response on a kinesthetic repositioning task for 18 trials and was withdrawn for the remaining 9 trials. During the KR trials, the tasks were considered 2-, 3-, and 4-scheme tasks for the NKR, GKR, and PKR conditions, respectively. Evidence to indicate superior performance of the 10-yr-olds and HMP as compared with their age and M-processing counterparts were noted consistently throughout the analyses on measures of accuracy and variability. Both general and precise KR were similarly effective in reducing learning errors but were sig more beneficial than no KR. The results indicated partial support for neo-Piagetian theory as an explanation for within- and across-age variability noted in children's motoric responses to KR.

62. PEREZ, Helmut R. The effects of a season of competitive road-racing on the body composition, pulmonary function, and cardiovascular system of male sport cyclists. Ph.D. in Movement Science, 1977, 79 p. (D. Smith)

Competitive cyclists (N=13) were tested for cardiovascular, pulmonary, and body composition adaptations during the course of a 5 mo competitive season. O_2 consumption was measured by open circuit spirometry; forced vital capacity, forced expiratory volume, and max voluntary ventilation by standard spirometric techniques; and body density by hydrostatic weighing. Pre-, mid- and postseason values for VO_2 max, max VO_2 debt, forced vital capacity, forced expiratory volume, max voluntary ventilation, % body fat, lean body wt and anaerobic power were obtained. ANOVA revealed a sig increase in VO_2 max (liters/min and ml/kg/min), and a sig decrease in resting HR ($p < .05$) during the first 11 wks of the season. These changes were followed by a sig increase ($p < .05$) in anaerobic power and total O_2 debt during the next 12 wks of the season with no additional increment in VO_2 max or resting HR. No sig changes in body composition or pulmonary measures were noted after 23 wks of training and competition. Cyclists, unlike other athletes, may therefore be able to maintain, and in some cases improve, their physiological readiness to perform throughout a season of competition based primarily upon the nature of their training program.

63. PIERCE, Caryl G. Observational learning: Temporal spacing and retention of a model presentation of a gross motor skill. M.S. in Movement Science, 1977, 101 p. (J. Thomas)

In order to investigate the effects of modeling behavior for 8- and 10-yr-old children, 45 8-yr-old and 45 10-yr-old females were randomly assigned within age level to 3 groups. The groups differed according to whether a model was presented in the beginning (BM), in the beginning and midway (MM), or not at all (NM) during 12 trials on the stabilometer on day 1. No sig diffs between the modeling conditions were found. Ss were retested on day 2 over 6 trials for retention measures. The 10-yr-olds in the BM and MM conditions balanced longer than the 8-yr-olds in the same conditions, while the NM condition for both age groups balanced at the same level. A performance and retention effect found the model condition X age X blocks to be sig. The 10-yr-olds balanced longer than the 8-yr-olds in the modeling conditions, while the 8-yr-old MM condition Ss balanced less effectively than all groups. It was interpreted that the introduction of a model in the beginning and the middle (MM) interfered with the performance of the 10-yr-olds.

64. SCHOLLE, Peter B. The development of a method for equating the effects of automatic, semi-automatic, and manual timing methods on swimming competition. Ph.D. in Physical Education, 1977, 92 p. (P. Everett)

A total of 6,058 races in 7 swimming meets were studied in which the primary and secondary meet results were recorded. Investigated were methods for equalization of the effects of automatic, semi-automatic and manual timing methods on swimming competition. The data revealed that those meets which had semi-automatic secondary times were slow by a mean of 0.134 secs; while those meets which were timed manually had results which were fast by a mean of 0.055 secs, when compared to automatic times. A formula was developed in which, if the timing device malfunctioned, the automatic and secondary times could be integrated. The formula was expressed as $Pt = \frac{\sum_{i=1}^{n-1} (Pi-Si)}{N-1} + Sn$. The formula was tested for the purpose of validating the integration formula time. The Wilcoxon matched-pairs signed-rank test was used to statistically check for sig. The results indicated that no diff could be found between the back-up times and those derived by using the integration formula ($p < .05$).

65. SHAPPELL, Richard T. *The effects of three types of mental practice on performance and retention scores of a maze tracking task*. Ph.D. in Physical Education, 1977, 124 p. (P. Everett)

Male (N=76) Ss enrolled at Oxford College during the Spring Quarter, 1973, served as Ss. Investigated were the effects of 5 types of practice on performance and retention scores of a maze tracking task. Sig diffs ($p < .05$) were found among the groups on post-test performance. The combination mental practice-film presentation and physical practice group was superior to all other groups. The physical practice group performed better than all groups except the combination group. The film observation and mental practice-film presentation groups did not differ sig from each other but the mental practice-film presentation group performed sig better than the control and mental practice groups. The mental practice and film observation groups did not differ sig from each other but performed sig better than the control group. Sig diffs were also found among the 6 groups on the retention test. The mental practice group gained 43% while the mental practice-film presentation group had a 10½% gain. The physical practice group gained almost 5%, the control group gained 4%, and the combination mental practice-film presentation and physical practice group had a loss of 32½%.

66. STRATTON, Richard K. *Developmental aspects of attention in the motor skill performance of children*. Ph.D. in Movement Science, 1977, 115 p. (J. Thomas)

The role of selective attention in the dual motor task performance of children was investigated. The performance of an externally paced rhythmic timing task was examined with respect to the age of the S, the sensory modality of the presentation of the secondary (RT) task cues, and the rate of presentation of the cues. 8-yr-old (N=60) and 11-yr-old (N=60) boys were randomly assigned to 1 of 3 groups, no interference (control, secondary auditory input, and secondary visual input. Ss performed 6 blocks of 16 trials each. Temporal and spatial errors were recorded for the primary task performance and reported as AE, CE, and VE. MANOVA revealed sig better performance by the 11-yr-old boys. The interference conditions resulted in less consistent temporal performance than the no interference condition. An age X rate of secondary stimulus presentation interaction points to the ability of the younger children to develop strategies of selective attention which result in improvement in primary task performance to levels near that of the older children.

67. SUZUKI, Hideo. A study of perception of leisure and the degree of satisfaction in personal leisure of selected faculties and students. Ph.D. in Physical Education, 1977, 147 p. (L. Wells and F. Cannon)
Leisure Services (Parks and REC) faculties (N=30) and students (N=199) at 8 representative universities from each NRPA District were utilized during the Spring Quarter 1977 as Ss in an investigation of the relationship between faculties'' and students' perceptions of leisure. Also studied were the degree of satisfaction obtained in their personal leisure and the leisure satisfaction obtained through current leisure participation. Following a modified semantic differential technique used to measure perceptions of leisure, the 7 point value scale was used to measure satisfaction. There were sig ($p < .01$) relationships between faculties' and students' perceptions of leisure, male and female faculties as well as male and female students. The faculties and the students had similar perceptions of leisure, and perceptions were centered on 4 adjectives: relaxing, enjoyable, fun, and free. There was also sig ($p < .05$) diffs between faculties' degree of satisfaction obtained in their personal leisure and that of students. The students were more satisfied in their personal leisure than the faculties. More than 95% of Ss were more than occasionally satisfied through their current leisure participation. The most frequently listed were not enough time by students and lack of appropriate programs, resources, and/or environment by faculties.

GEORGE PEABODY COLLEGE FOR TEACHERS (Dewayne J. Johnson)
NASHVILLE, TENNESSEE

68. TERRELL, David. A study of the effect of an aerobic weight training program on the development of cardiovascular fitness. Ed.S. in Health and Physical Education, 1977, 56 p. (D. Johnson)
16 volunteer Ss participated in an aerobic wt training program. Treatment involved participation in an aerobic wt training program twice a wk for 6 wks. Ss exercised in all-out bursts of 45 secs duration, rested for 1 min or less, then exercised again. 6 of the 8 exercises involved lifting wts. The other exercises were sit-ups and push-ups. The total no.

of reps for each exercise executed was a minimum of 15 and a max of 20. A circuit of 8 stations was established with a specific exercise at each station. After 3 wks, the work was increased from 1 to 2 sets of exercises. The Astrand-Rhyming method was used to estimate max VO_2. All measurements were taken immediately before and after the 6-wk treatment period. The order of testing was randomly assigned. The data was analyzed by using a t-test for 2 means from related samples ($\underline{p} < .05$). The results indicated no sig diff between pre-test and post-test scores on estimated max VO_2.

GEORGE WILLIAMS COLLEGE
DOWNERS GROVE, ILLINOIS

69. ANGLE, Gerald. Coaches handbook of volleyball drills. M.S. in Physical Education, 1976, 121 p. (J. Coleman)

70. BECK, Judy. Individualized instruction program in volleyball for beginning through intermediate level students. M.S. in Physical Education, 1976, 141 p. (J. Coleman)

71. BOKER, Rudolph. The effect of exercise on the vital capacity and forced expiratory volume of adult males. M.S. in Physical Education, 1976, 31 p. (J. Joseph)

72. BUNTROCK, John. A comparison of response times for the crossover and jab steps: For base runners and fielders in baseball and center blockers in volleyball. M.S. in Physical Education, 1977, 20 p. (J. Coleman)

73. LAIRD, Marsha E. Generality vs. specificity of performing the tennis serve and overhand throw. M.S. in Physical Education, 1977, 69 p. (F. Grebner)

74. GATSES, Thomas. Comparison of six static balance tests. M.S. in Physical Education, 1976, 56 p. (J. Coleman)

75. GATLING, Richard. A beginners introduction to racquetball. M.S. in Physical Education, 1977, 28 p. (J. Joseph)

76. GROVES, Barbara. Oxygen uptake and adipose tissue of middle aged women. M.S. in Physical Education, 1977, 30 p. (J. Joseph)

77. HANIFAN, John. The relationship between foot position

and movement of the center blocker in volleyball. M.S. in Physical Education, 1976, 47 p. (J. Coleman)

78. HOCK, Robert. Training manual for hockey goal tenders. M.S. in Physical Education, 1977, 78 p. (G. Falussy and J. Joseph)

79. IRWIN, S. The approval angle of the basketball to the basket. M.S. in Physical Education, 1977, 25 p. (J. Coleman)

80. JOHNSEN, Rod. Statistical analysis of pass evaluation in basketball. M.S. in Physical Education, 1977, 30 p. (J. Coleman)

81. MENDOZA, Joseph. The effects of supervised exercise on myocardial infarction patients. M.S. in Physical Education, 1977, 68 p. (J. Joseph)

82. MURPHY, Joan. The difference in flexibility between males and females, ages six to sixteen. M.S. in Physical Education, 1977, 34 p. (J. Joseph)

83. RAFFAELLI, Philip. Physical education handbook for junior high students. M.S. in Physical Education, 1977, 81 p. (J. Coleman)

84. TAYLOR, Dennis. Physical fitness handbook for the busy executive. M.S. in Physical Education, 1977, 149 p. (J. Joseph)

85. THEEL, Eleanor. Physical fitness through physical education. M.S. in Physical Education, 1977, 24 p. (J. Joseph)

86. YATES, Mary Ann. Development of a volleyball skill test to evaluate the forearm pass for women. M.S. in Physical Education, 1976, 33 p. (J. Coleman)

87. ZEEMAN, Otto. Huston Veer offense. M.S. in Physical Education, 1976, 30 p. (J. Joseph)

INDIANA STATE UNIVERSITY (R. J. Stebbins)
TERRE HAUTE, INDIANA

88. BERKOWITZ, Steven. Personality study of college

distance runners and baseball players. M.A. in Physical Education, 1977, 42 p. (W. Ruffer)

89. BUCHANAN, Patricia. A comparison of three different ankle wrappings as related to flexibility of the ankle joint. M.A. in Physical Education, 1977, 78 p. (L. Garrison)

90. GRAY, Peter. Changes in resiliency between selected new and used golf balls. M.A. in Physical Education, 1977, 64 p. (R. Stebbins)

91. HOLLAND, Darcy. The effects of forearm strength on lateral epicondylitis. M.A. in Physical Education, 1977, 71 p. (R. Stebbins)

92. PERRIN, David. A comparison of two methods of developing quadriceps muscle strength. M.A. in Physical Education, 1977, 36 p. (P. Brassie)

INDIANA UNIVERSITY (Wynn F. Updyke)
BLOOMINGTON, INDIANA

93. ADAMS, James V. An instrument for evaluating competencies of safety management interns. H.S.D., 1976, 158 p. (D. Ludwig)

The problem was to develop an instrument for evaluating the competencies of safety management students through a multiple internship program and determine the value of the internship in the professional preparation of future safety management practitioners. The competencies of ISU safety management interns in the 1st internship, the 2nd internship and graduates who had participated in the safety management program and in their 1st yr in a position were compared. The instrument was developed through research of literature and personal experience. The instrument was revised through the use of 2 juries and a pilot study, then administered by personal interview to 30 supervisors of 30 safety management majors enrolled in ISU, Terre Haute, IN. The final instrument contained 135 competencies in 15 areas of safety.

94. CARTER, John M. The outdoor recreation education programs in six state universities of Kentucky. Re.D., 1977, 241 p. (T. Rillo)

The problem was to investigate and evaluate the outdoor REC programs offered in the 6 state universities of Ky. The following procedures were accomplished: defining of the population as being the total population of the 6 state universities in Ky., selection of 13 elements from the related literature to be used in the survey instrument, development of this survey instrument for submitting to a jury of experts, validation of the instrument by 11 jurors representing different regions of the US, and administration of the validated survey questionnaire to the 6 universities. The existing program for the universities could then be compared and evaluated in terms of the preferred answers to the questions validated by the jury of experts. The hypothesis that there is no sig diff among the M rankings of each of the universities when surveyed on each element was tested by analyzing the data using the Friedman 2-Way ANOVA for Non-Parametric Computer Program. Three elements showed a sig diff among the universities ($p < .05$). These 3 elements were: standards for faculty teaching load, standards for curriculum content--the graduate program, and the standards for the outdoor recreation program.

95. CARTER, Marcia J. Modification of behavior of mental retardates through selected recreation experiences.
Re.D., 1976, 327 p. (J. MacLean)

A group of 29 TMR children served as the exp population. A list of behaviors and a list of performance objectives were submitted to a jury of experts. The jurors selected the behaviors believed observable and capable of modification during program participation. The jurors selected performance objective (PO) statements that appropriately evaluated the display of the identified behaviors. Activities proposed to elicit the appearance and modify the behaviors identified by each objective were submitted to a jury of experts, field-tested, and organized into 18 lessons. The content was administered for a 6-wk period by the classroom teachers. The data were collected on the POs during pre- and post-test periods by trained observers. Descriptive statistics were used to analyze the data. Participation in a PO-based program seemed most effective in modifying social behaviors and least effective in modifying communication behaviors of participants. A program of this nature appeared more successful in modifying behaviors of younger CA participants. A longer treatment period was needed to increase the effectiveness of the program. An inservice training program was effective in creating teacher awareness of the value of physical REC.

96. CLASEN, John L. Self-control techniques in a juvenile-onset adult-onset obesity weight reduction program. H.S.D., 1977, 122 p. (D. Ludwig)

The problem was to determine the relationship of age of obesity onset upon successful wt reduction and the psychological profile of obese individuals in a behavioral self-control wt reduction program. Obese volunteers were solicited from IU and Monroe Co. IN. for the study. The Ss were identified as either juvenile-onset (JO) or adult-onset (AO) obese by means of a personal history questionnaire. Ss were weighed, had a skinfold test to measure % of body fat and took the Cal. Psychological Inventory at the beginning and end of the 12-wk program. Ss were randomly assigned to 1 of 8 groups, all receiving similar treatment. 63 Ss began the program while 36 Ss completed the program. It was found that there was no diff in the psychological profile of the dropouts and those who completed the program; in the % of JO and AO Ss who dropped out; in the psychological profile of the JO and the AO Ss and in the change in wt of the JO and AO Ss; in psychological profile of the JO and AO Ss.

97. DAVIS, Thomas M. The effect of the death education film "In My Memory" on elementary school students in the LaCrosse, Wisconsin public schools. H.S.D., 1976, 131 p. (D. Ludwig)

Determination of the effect of viewing the Inside-Out series film "In My Memory" and participating in a follow-up in-class discussion on LaCrosse, Wis. ELE school students was the problem. After a life-and-death-concept-evaluation instrument was developed by the researcher with the assistnace of a jury of experts, data were collected from 631 ELE students. Scores evaluating Ss' concepts of life and death and their acceptance of the irreversibility and universality of death were recorded prior to and following their viewing of the film. A comparison was made between M pre- and post-test scores and the change in frequencies from the pre- to post-test was compared. There was some change in S's concept of life and death for those Ss who viewed the film and participated in the follow-up discussion. There was greater acceptance of universality and irreversibility-of-death among all groups of Ss after viewing the film. This film is effective in developing an understanding of the true nature of death. Effectiveness of this film will be increased if the viewers participate in a follow-up in-class discussion immediately after the film is concluded.

98. EBERLE, Charles A. III. Recommended practices for the control of intercollegiate athletics in the state colleges of Pennsylvania. P.E.D., 1976, 437 p. (J. Daugherty)

The problem was to determine the current athletic practices in the administration of intercollegiate athletics in the 14 State Colleges of Pa. and make recommendations for improving the administration of these programs. An oral questionnaire dealing with 7 problem areas was administered with the ADs to determine current athletic practices in the administration of intercollegiate athletics. Another questionnaire was used to poll a jury of experts on their opinion of the control for the 7 problem areas. Current practices were compared to the ideal practices. Findings indicated that the State Colleges' admission practices were ideal; 64% had no policy regarding women competing on men's teams; at least 79% followed the same practices in athletic recruitment; 43% awarded grants and 57% awarded jobs to athletes based on athletic ability; and 79% financed athletics the same as all other school activities.

99. FRYE, Patricia A. Selected coefficients for estimating the reliability of multiple trial motor performance tests. P.E.D., 1977, 85 p. (T. Baumgartner)

The problem was to determine empirically if the Kristof and Feldt formulas were appropriate for the reliability of multiple trial motor performance tests (MPT) as compared with the coefficients by the ANOVA method under trend-exhibiting and trend-free conditions. A subproblem was to determine how the coefficients compared among different trial combinations possible for the same data set. Data sets (N=31) included results from 5 different types of MPT which had been administered by previous researchers. Each set was collected on a single day, using from 48 to 95 male Ss of JHS, SHS, or college age. Coefficients of 4 types were determined on each data set under each trend condition; an ANOVR from a S by trials design, an ANOVR adjusted for trend, Kristoff (K) coefficients using various trial combinations, and Feldt (F) coefficients using trial combinations. The K coefficients derived from assigning alternate trials to each successive test part and the F coefficients from an odd-even division of trials yielded consistently higher reliability estimates than other trial combinations and consistently higher reliability estimates than the R and Trend R for the same data set, but not enough to be of sig. When all of the K and F combinations were considered, neither method appeared to be consistently better than the ANOVA method.

100. GALL, Steve. Intramural sports related to selected measures of self-concept and motor skill development of seventh grade boys and girls. P.E.D., 1976, 163 p. (J. Daugherty)

Exp Ss and control Ss participating and not participating in intramural sports programs were tested initially on 3 paper and pencil self-concept (SC) tests and motor skill (MS) tests. After the program of IM sports, Ss were tested again on all tests. Data were analyzed using description statistics among the changes in SC and final MS development. There were no changes in selected measures of SC of exp and control Ss after an 8 wk bowling IM program and 6 wk track and field (TF) IM program plus regular PE. There were changes in the MS development of exp and control Ss after the 8 wk bowling program and 6 wk TF program. Slight correlations for positive change in bowling and track skills were observed on the final tests: the Piers-Harris SC and BT SC; the Piers-Harris SC and the internal Locus of Control; the internal Locus of Control and the BT SC; the Bowling SC and the bowling skills; the track SC and track skills; the 220 yd dash and the shot-put; the 220 yd dash and the softball throw. General SC, sports SC, and MS development of 7th grade boys and girls were related.

101. GAVRON, Susan J. Movement mosaics: A simulation game for prospective adapted physical educators of retarded children. P.E.D., 1976, 118 p. (E. Davies)

The problem was to devise a valid instrument with which to assist prospective adapted physical educators to teach PE to moderately retarded children (MRC) (CA 2-18 yrs old). Undergraduate students (N=68) were divided into 2 groups (34) enrolled in adapted PE classes, were matched on their previous experience with moderately retarded children (MRC) in adapted PE. Group A, at session 1, received the simulation game, a post-test, and a game evaluation form. Group B, at session 1, received only a pre-test. One wk later the treatment was crossed over between groups. A 2-way ANOVA with repeated measures on 1 factor was performed on the data. A test for simple effects was performed on the interaction between groups and tests. Questions in subscale 1 dealt with the knowledge of needs, interests and characteristics of MRC; those in subscale 2 dealt with selection and adaptation of physical activity for MRC. A sig diff was found between test times, between groups and in interaction between groups and tests with total scores. A sig diff was not found in Group A from test time 1 to test time 2 in any of the subscales or in the total scores. The simulation game was effective in teaching students about needs, interests, and characteristics of MRC. Knowledges learned from playing the simulation game remained relatively stable.

102. HAVEN, Betty H. Changes in the mechanics of the running patterns of highly skilled women runners during competitive races. P.E.D., 1977, 110 p. (J. Cooper)
The problem was to describe and compare selected mechanical characteristics of the running patterns exhibited by 17 highly skilled Ss (17) under 2 conditions during the 440 yd, 880 yd and 1500 meter races. An analysis compared condition 1 (non-fatigued) and 2 (fatigued) running patterns of Ss during an international track and field meet. High-speed films were taken of Ss near the beginning of the race (at 185 yds for the 440 yd and 880 yd races and at 50 m for the 1500 m run) and at a 2nd point approximately 35 yds from the finish lines for all races. 15 positions were analyzed for each runner in each condition. The parameters investigated included stride length and frequency; horizontal velocity; times of support, non-support and recovery; angles of take-off and touchdown; angle of knee lift; and trunk angle. Changes observed in the running patterns were assumed to be due to fatigue. M stride length, frequency and horizontal velocity decreased from condition 1 to condition 2. Decreases in horizontal velocity were appropriately equal for all phases of the stride. Few changes in measured body positions were apparent from condition 1 to 2. The M position of the knee at the end of forward swing was higher for condition 1 than for 2. There were changes in temporal relationships for support and non-support, and support and recovery as well as changes within those periods.

103. HOPKINS, David R. A factor analysis of selected basketball skill tests. P.E.D., 1o76, 110 p. (J. Daugherty)
The problem was to investigate the factor structure of human motor performance in the sports skill domain of basketball and identify the robust factors in that domain. A theoretical model of the hypothesized dimensions (HDs) of basketball playing ability was developed. The hypothesized factors were: shooting, passing, jumping, movement without the ball, and movement with ball. Exp variables (N=21) were selected to sample these hypothesized factors. Included in the 21 variables were the 9 items from the AAHPER, Basketball for Boys, Skills Test Manual. The variables were administered to 70 boys enrolled in the U. of Minn.-Duluth, Basketball Camp, during the summer of 1975. The hypothesized model was

investigated by the use of several factor analytic models: alpha factor analysis; canonical factor analysis. The HD of jumping was identified and found to be best measured by the jump and reach. The HD of movement without the ball and movement with the ball were found to be consolidated into 1 dimension. The best measures of this factor were the zig-zag run and the zig-zag dribble. The HD of passing was identified and found to be best measured by the wall pass. The HD of shooting was identified and found to be best measured by the side, front and foul shots. The AAHPER basketball skill test includes items which may be redundant and might be narrowed to a 4-item test battery--jump and reach, dribble, speed pass and side shot.

104. HOWARD, Gordon D. An assessment of motor home users' safety knowledge. H.S.D., 1976, 260 p. (B. Loft)
The procedures in conducting the study were: construction of the preliminary instrument: selecting the jury of experts; validation of the preliminary instrument by the jury; revision of the preliminary instrument into the primary instrument in accord with the jury; administration of the primary instrument in a pilot study; analysis, refinement and conversion of the primary instrument into the final instrument; administration of the final instrument; organization and analysis of the data. Analysis of the test data was conducted on a random sample of 400 returned instruments. Analysis of the data involved calculation of: M, SD, Kuder-Richardson reliability, Spearman-Brown reliability, frequency distribution, item difficulty, item r's, and Ms of variables. Classifications receiving the highest M knowledge test scores were motor home users who owned a van-conversion type of motor home, have 5-6 yrs of motor home experience, between the ages of 26 and 40, and of the male sex. The Motor Home Users' Safety Knowledge Test is a valid and reliable instrument for measuring knowledge of operating and nonoperating hazards associated with motor homes; members of the Family Motor Coach Assoc. possess a reasonably good knowledge of motor home safety; the Fault Tree Analysis technique of system safety analysis is a viable method of establishing content parameters for a safety knowledge test.

105. HRUBAN, James A. The relationship between snack foods placed in vending machines and the selection of those snacks by high school students. H.S.D., 1976, 133 p. (D. Ludwig)
It was necessary to: develop a method to classify snacks into excellent, fair and poor categories using nutrient-to-calorie

ratios; devise a snacking formula to rate the Ss' snack food selections; acquire a list of snack foods dispensed and determine a theoretical list representing an equal % of excellent, fair and poor snacks. The sample providing the data consisted of 374 randomly selected Ss from a SHS who were willing to complete the survey instrument and regularly used school vending machines. Upon receiving the results of the survey instrument, frequencies and %s were calculated for classification variables: grade level, sex, physique, breakfast, school lunch, home lunch, social status, social participation, and nutrient adequacy. The X^2 test of independence and Friedman 2-way ANOVA by ranks were used. The actual snacking score was sig with grade level, sex, home lunch, nutrient adequacy, and the theoretical snacking score. The theoretical snacking score was sig with sex and social participation. Ss tend to select more nutritious snack food when the snack food selection had a greater % of excellent and fair snacks than when they were presented an equal % of excellent, fair, and poor snack foods.

106. JACKSON, Michael W. Qualifications of selected Indiana high school football coaches as athletic trainers. H.S.D., 1977, 169 p. (D. Ludwig)

The problem was to assess the academic qualifications of HS football coaches and to compare those qualifications to the recommended academic qualifications of Athletic Trainers (AT). Professional materials were reviewed and analyzed for professional and educational qualifications of AT. An instrument was developed to indicate these characteristics by areas and items. A jury of qualified ATs were sent the instrument for additions and deletions and to indicate on a 5-point Likert scale each item as to its being essential or nonessential for a knowledgeable and skilled AT. The instrument was mailed to a random sample of 47 head football coaches in the 319 SHSs classified as a full member by the IHSAA. The data were presented in tabular form with frequencies and %s. The average % SHS football coach was between the ages of 30-39, held a master's degree, has been coaching in his present position 7 yrs or less, employed in a school of over 801 students, and shoulders the duties of AT. The Ind. SHS football coaches are not well-qualified to assume the role of AT, but are fairly well qualified as coaches. The general attitudes of coaches toward the professional advancement for trainers and coaches, and toward state certification for all football coaches were strongly positive. The attitudes of the coaches toward injuries, protection, and equipment, and medical care were negative.

107. JOHNSON, Wenda D. A comparison of motor creativity and motor performance of young children. P.E.D., 1977, 137 p. (A. Aldrich)

Sub-problems of the study investigated the relationship of age and sex of the S with their ability to exhibit a no. of creative movement responses to a given situation and motor performance. The Ss were 48 boys and girls aged 3 yrs 6 mos enrolled in the Early Children Physical Development Program at IU. The Ss were divided into 3 age groups. The Wyrick Test of Motor Creativity (MC) and a motor performance (MP) test battery (consisting of the standing broad jump, 40 yd dash, tennis ball throw for distance, sidestepping and a Bass stick test) were administered to the children individually. M test scores were used to determine the relationship between MC and MP and to determine if age or sex were related to MC or MP. There was a sig positive relationship between MC and MP. Neither age nor sex was related to motor creativity, except on the tennis ball throw on which boys scored better than girls, however, there were no sig sex diffs in MP. MP scores increased with age. The 2 psychomotor domains of MC and MP are related in young children indicating that children who score well on measures of 1 domain tend to score well on measures of the other domain. MC of young children does not tend to be related to age or sex, except on measures of throwing ability where there are not sig sex diffs in MP. MP increases with age.

108. KLATT, Lois A. Kinematic and temporal characteristics of a successful penalty corner in women's field hockey. P.E.D., 1977, 245 p. (J. Cooper)

Data were collected during a series of games at the 1975 International Field Hockey Conference. 62 randomly chosen penalty corners were selectively analyzed for statistical purposes. Mechanical analysis was achieved by cinematography. An overhead view of the playing field was utilized from 2 horizontal views of motion. Data were programmed into a mathematical simulation of the penalty corner situation to predict the relative importance of each variable. It was found there are specific characteristics of performance related to the element of success in the penalty corner. Data included parameters of distance, direction and angles, and time of offensive and defensive play relative to the hit out, reception of the hit out and shot on goal. The direction and distance of the ball and distance traveled by the receiver determined the size of the angle open to the mouth of the goal (hit out). The hand stop resulted in a shorter time lapse and greater control compared to the stick stop (reception of the hit out). The drive shot was the most universally used shot on goal. It was demonstrated that the defensive team needs to develop and use a specific plan to defend properly against a well-executed penalty corner. There are angles that are open to the mouth of the goal for the offensive player to use; these are open to the left goal post but primarily to the right goal post.

109. KLEBEZ, George A. *Learning and improving selected soccer skills with different pressure and size soccer balls*. P.E.D., 1977, 106 p. (C. Strong)

The problem was to analyze the effects of ball size and pressure on 4 selected soccer skills using experienced and non-experienced Ss at the college level. Validity and reliability were established for each of the following soccer skill tests: heading, passing and trapping, juggling and dribbling. Each population was divided into 3 groups and trained with a different soccer ball. Group A used a regulation size ball; group B used a smaller, lighter ball, and group C used a regulation size ball inflated to less than the recommended pressure. Data were collected 4 times during the study to determine when improvement occurred within each group. All groups showed improvement in skill development with the exception of 1 group in 1 skill. During the training program, 1 group from the experienced population trained with the small ball, showed sig improvement. This occurred in the 1st wk of practice. Size and pressure of the ball did not affect the performance of skills at the end of the training program. Balls of similar size and rebounding quality do not have any effect on skills when used throughout a training program. The use of different pressure and size balls can add variety to the practice without impairing skill development. All groups improved their skill level except 1 group in 1 skill.

110. KRICK, Ken L. *A system utilizing demographic and socioeconomic data to assist recreation planners*. Re.D., 1976, 166 p. (R. Tully)

This study attempted to establish a system which would provide REC planners with information for developing and interpreting REC plans. The study was concerned with the following subproblems: identify and validate demographic and socioeconomic variable which made a sig contribution to the development of REC plans; establish an inexpensive system to facilitate REC planning and demonstrate a method capable of visually displaying information relevant to variables which contribute to the development of REC plans. Demographic and socioeconomic variables were identified. A rating instrument was then developed to validate variables which contributed sig to the development of recreation plans. Jurors selected to complete the rating instrument were professional planners employed by firms who were members of the Council of Park and REC Consultants (COPARC). Jurors were asked to rate all variables on a 4 pt scale. After sig variables had been identified and validated, an inexpensive system for collecting and displaying information relevant to those variables was established. The final phase of the study demonstrated how the information collected for each variable could be displayed for visual interpretation.

111. McCALL, Gail E. A profile of the leisure patterns of adult male probationers in Morgan County, Indiana. Re.D., 1977, 240 p. (R. Tully)

The data were collected via a questionnaire from 57 adult male probationers who were on probation as of May 1, 1973. SPSS computer program was utilized to glean frequency and % of participation or non-participation in various REC activities. The population was subdivided into 4 categories for the purpose of developing the leisure profile: men who had been tried and convicted of violent crimes, non-violent crimes, felonies, and misdemeanors. It was found that the profiles for all categories were similar with regard to REC pursuits in which all men preferred to participate in individual and social activities. Horseback riding and motorcycle riding were the most frequently mentioned leisure interests and the reason the men did not participate in these activities was because they were not available to them or they did not know how to perform the activity. The area of greatest response was "not interested" in learning or performing the activity. Although the population participated in a variety of REC pursuits and expressed varied leisure interests, evidence of a leisure pattern did exist. REC pursuits of the probationers were not usually identified as REC activities (i.e., drinking, gambling, etc.) although their leisure interests could be considered as planned REC activities.

112. McCLENAGHAN, Bruce A. Development of an observational instrument to assess selected fundamental movement patterns of exceptional children. P.E.D., 1976, 137 p. (E. Davies)

This study was to design and develop a movement pattern assessment instrument to be utilized in assessing the fundamental movement abilities of exceptional children. A developmental progression of each movement pattern was identified and divided into 3 developmental stages, and specific body actions to aid in observing the movement patterns. The instrument was reviewed by a panel of experts and then revised. The instrument was validated utilizing the res base on which the developmental progressions of the selected movement patterns were made and the opinion of the panel of experts. Selected assessors (20) evaluated a previously scored 16 mm film of the selected patterns with 84.5% accuracy. Children performed at the same developmental stage of the selected patterns with an 88.6% consistency on 2 different days.

113. MOSELY, Kenneth D. *The effectiveness of selected physical education activities in teaching geometric concepts to trainable mentally retarded children.* P.E.D., 1976, 234 p. (T. Baumgartner)

Ss (N=28) were randomly assigned to the exp group and 27 Ss were randomly assigned to the control group. Both groups were administered a 24-item geometric concept (GC) test (pre-test). For a 10 wk period, the exp group received instruction in physical activities, designed to enhance GC scores that emphasized balance. The control group received instruction in PE activities that emphasized balance, but the lessons were not planned to enhance GC scores. Both groups received classroom instruction in understanding GCs. The 2 groups were administered a post-test. Regression analysis was utilized to determine whether diffs existed between the children in the groups for GC test scores. A post-hoc analysis was conducted, and it was found that the diffs in mean scores were not sig for the square, triangle, and total geometric concept (p .25), the M circle concept score of the exp group was sig larger than the M score of the control group ($p < .25$), the older children achieved higher M scores than the younger children for circle, square, triangle and total geometric concepts and relationships of practical importance existed among test scores for the circle, square and/or triangle concepts.

114. NASH, Karen R. *The sequencing of an audiovisual-group discussion teaching method as it relates to social adjustment attitude change of junior high school educable mentally retarded students.* H.S.D., 1976, 153 p. (D. Ludwig)

A researcher-developed Attitude Questionnaire (AQ) was administered as a pre-test to both treatment groups, followed by the application of 8, 30-min lessons comprising the social adjustment instructional unit, and the administration of the

AQ as a post-test. 16 Ss were randomly selected from each of the 2 treatment groups, and the diffs in the frequency of their attitude responses were examined. Within-groups diffs were analyzed through the use of the test for the diff between 2 correlated proportions. Between-groups diffs were analyzed through the use of a 2-way X^2 test. Sig attitude changes among Ss taught by the AV-group discussion sequence existed for 4 of the 20 statements. Sig attitude changes among Ss taught by the group discussion-AV sequence existed for 7 of the 20 statements. 6 sig between-groups initial diffs in attitudes existed, and 7 sig between-groups final diffs in attitudes existed. Both sequences are effective in producing within-groups as well as between-groups desirable attitude changes. The AV-group discussion sequence appears more effective in producing both within-groups as well as between-groups desirable attitude changes.

115. PIENCHOB, Vorasák. A recommended four-year undergraduate curriculum for professional preparation of physical education teachers in Thailand. P.E.D., 1976, 404 p. (C. Strong)

The study was accomplished through the following steps: determine the courses to be included in the curriculum; developing a checklist and rating scale for courses to be evaluated by a jury of experts, conduct a pilot study, select the curriculum and evaluation juries, select the courses for the recommended curriculum on the basis of the evaluation of the juries of experts. It was concluded that: the recommended curriculum was developed in an objective manner; courses selected reflected the agreement of the 2 juries; the basic and applied sciences area was the most important area, and courses in the general education area were the most difficult to evaluate.

116. PLUMMER, Portia F. Attitudes toward use of marijuana of freshman and senior students in four selected Hamilton County high schools. H.S.D., 1977, 151 p. (B. Loft)

The problem was to design and construct a reliable instrument capable of assessing attitudes of HS freshmen and seniors regarding the use of marijuana and to determine if there were any diffs in those attitudes due to class, sex, or school attended by the Ss. After an instrument was developed, the data were collected from freshman and senior students in 4 Hamilton Co. schools. An attitude score for each S was obtained utilizing a Likert type rating scale. Scores were tabulated and analyzed using a 2 x 2 x 4 factorial ANOVA with the variables: class, sex, and school. In addition, the Split-half, Spearman Brown and Cronbach Alpha tests for reliability coefficients were computed. It was found that the measuring instrument was both valid and reliable. There was a diff in attitudes toward use of marijuana due to the class in school, sex, and the school attended by the Ss.

117. SALISBURY, Jane J. Comparison of traditional and HAP methods of presentation to fifth and sixth graders at the Cleveland Health Education Museum. H.S.D., 1977, 117 p. (D. Ludwig)

The problem was to determine whether diffs in retention of content and concept materials were apparent in 5th and 6th grade children being evaluated. Presentation formats were traditional, teacher-centered or HAP method, which is a participation experience. An opportunistic sample of 5th and 6th grade children was taken from the Cleveland Health Education Museum. Over 1300 children were tested with the final sample including 757 children. Ss were randomly assigned to a teaching format. They were assigned grade level, school type and school location categories. Data collection included 2 testings. Pre-tests were given by the classroom teachers the day before visiting the museum and post-tests the day following the visit. Test forms were analyzed by utilizing an ANCOV with pre-test scores serving as the covariates. The HAP method of presentation did seem more effective in this particular study. Children having participated in the HAP activity had a higher gain in learning than did those children from the teacher-centered presentation. There were no statistically sig diffs in grade, school type or school location, but higher post-test gains were made by private school children in 6th grade.

118. SANDMAN, Wayne E. A model professional physical education curriculum for men in the Illinois public junior colleges. P.E.D., 1976, 257 p. (J. Daugherty)

The Ill. State Universities were visited to ascertain curricular requirements and initiate jury selection procedures. Tentative guiding principles were developed and submitted to the 9-person jury for revisions. A pilot curriculum was developed by consideration of the guiding principles, the university requirements, suggested standards, and related research. The pilot curriculum with course objectives was revised twice with the aid of the jury. The final curriculum was submitted to the admissions offices at the state universities to ascertain transferability. Shortages and excesses of credit in various areas were noted. A casual comparison of the model curriculum and existing curricula was accomplished by the use of tables. When curricular requirements of all public institutions of Ill. were compared, considerable variability was noted. Characteristics of some curricula revealed questionable practices and quality. Articulation procedures and policies lacked sufficient direction. The variability in requirements at the universities caused difficulty in developing an appropriate curriculum for the JCs. Despite this variability, the model curriculum proved to be acceptable as to transferability. The validity of the model curriculum was substantiated by the ease of transfer, the development by experts, and the favorable comparison with suggested standards.

119. STINSON, William J. The effectiveness of two methods of teaching the front crawl stroke to beginning male college swimmers. P.E.D., 1976, 101 p. (J. Daugherty)
Beginning swimming classes (2) were randomly assigned to 1 of two methods--traditional or programmed. The traditional Ss (18) were randomly selected while 13 Ss were selected from the programmed format group. Pre- and post-tests were given during the 9 wk study to both groups. The test consisted of a 30 sec swim test which measured distance swam, no. of strokes taken, and the judges' ratings of the front crawl stroke, and the physical self portion of the TSCS. In addition, programmed format Ss who completed their program before the end of the 9 wk study were given a 30 sec swim test. There were no sig diffs between the 2 methods of teaching the front crawl. There was sig improvement within each treatment with regard to the distance swam and judges' ratings for the front crawl stroke. There was sig improvement in the programmed format group from the initial to the final concept of the physical self scores.

120. STOCKHOLM, Alan J. Throwing accuracy as effected by distraction training. P.E.D., 1977, 83 p. (A. Slater-Hammel)
The problem was to analyze the effects of 4 wks of visual and auditory distraction training on the throwing for accuracy. Ss (N-52) performed in 1 of 4 distraction training groups: auditory, visual, visual-auditory, and no distraction. They each took 5 warm-up and 30 scored dart throws with the non-dominant hand at a circular target area on 12 training days. 2 more days of throwing, without distractions, were employed for the post-training period. The Ss' daily sum scores were subjected to 2 x 2 x 12 and 2 x 2 x 3 factorial ANOVA. Trend analyses were conducted to determine the nature of the

learning curve. Throwing accuracy improved during the 4 wk training period for all treatment conditions. This improvement took the form of a linear trend while also indicating a negatively accelerated quadratic trend component. There were no sig diffs between the auditory and visual distraction training conditions on throwing accuracy during the training period nor during the post-training period.

121. TURNBULL, Marianne M. The effects of an elimination of self-defeating behavior workshop on self-selected defeating behaviors of undergraduate women. H.S.D., 1977, 224 p. (D. Ludwig)

The ESDB workshop treatment was given to 2 samples of undergraduate women for either credit or non-credit. A control group was included. Pre-test, post-test, and follow-up data were collected from the 3 samples. The findings of the study were divided into 2 parts: change in self-defeating behavior (SDB), and change in positive mental health. It was generally found that the 2 groups receiving the treatment demonstrated reduction in their SDB patterns after the workshop and maintained this reduction throughout the follow-up. The control group did not display sig reduction in SDBs. In regard to change in the correlatives of positive mental health as defined in the study, the treatment groups showed positive growth after the workshop and continued development throughout the follow-up. The control group did not show this amount of growth, although minimal change from their entry level did occur with some relapse shown by the follow-up measure. Both treatment groups, credit and non-credit, reduced their SDBs and increased their level of positive mental health. A 1-mo. follow-up demonstrated that these benefits continued to be experienced.

122. UIBEL, Howard F. Recruitment procedures and selection criteria of selected commercial recreation enterprises with implications for position openings and professional preparation. Re.D., 1977, 283 p. (T. Deppe)

The problem was to identify current recruitment procedures and selection criteria utilized by selected commercial REC enterprises and ascertain the competencies needed by REC personnel in order to gain more employment opportunities. 75 commercial REC enterprises were identified and selected for this study. The research instrument was developed, refined by a jury of experts, and tested with a pilot group. Responses were tabulated, arranged in tables, and analyzed by frequency distributions, median ratings, and percentage analysis techniques. Some of the frequencies pertaining to importance of recruitment procedures, selection criteria, and desired competencies were weighted for the purpose of analysis. Implications concerning competencies required of students for professional preparation in commercial REC were drawn from the aforementioned analyses. It was found that the majority of enterprises used referrals and newspaper advertising for securing applicants and relied heavily on interviews and references with specific personal qualities being considered more than professional qualities in the selection of applicants. There were indications that REC graduates could qualify for most of the positions, however, it was recommended that business courses be added to the curriculum.

123. ULRICH, Charles O. Counseling needs of university female students concerning conception control and related sexual information. H.S.D., 1976, 149 p. (J. Rash)

The procedure was to develop, refine, and administer an instrument eliciting the perceived conception control counseling needs of university female students. Data were ascertained from 505 IU female students, and from 52 health service conception control counselors throughout the Midwest. Mean frequencies, and %s, were obtained from the data. Spearman rank-difference coefficient of r values were computed. Students and counselors did differentiate among the various areas concerning the amount of emphasis needed for each. Both agreed that the pap smear, pelvic examination, and breast examination were of the utmost importance, as well as information concerning the oral conception control technique (the pill). However, there were many areas where the 2 disagreed extensively, such as: abortion, morning after pill, and future developments in conception control. Many of the students were using unreliable conception control techniques. There was a definite need to provide conception control and related sexual information to the university female students. Many students have sought and obtained protection from the service which the IU Health Service has provided.

124. WAGNER, Donald I. The will: A determinant of health behavior. H.S.D., 1977, 88 p. (D. Ludwig)

The problem was to develop a unifying philosophy of the human will as a primary determinant of health behavior. The purpose was to develop a conceptual framework of the interactions between the will and health behavior; the identification of implications for training of health behavioralists; and identification of needed research studies that will advance our scientific knowledge and attempt to measure the will.

Philosophical argumentation, built upon 6 logical phases was applied to the development of the conceptual framework. The logical phases were evidences presented, postulates developed, warrants constructed, backing stated, qualifiers listed, and conclusions presented.

125. WILLIAMS, I. Clay. Indiana boat owners' knowledge of Indiana and Federal boating laws. H.S.D., 1976, 91 p. (D. Ludwig)

The following procedures were undertaken: development of instrument specifications; development of preliminary instrument; establishment of curricular validity; administration of preliminary instrument; determining reliability and item r of the preliminary instrument; revision of the preliminary instrument; selection of Ss; administration of the instrument to a random sample of 800 Ind. boat owners; analysis of the instrument. Analysis of the data involved tabulation of: M, SD, Kuder-Richardson (KR) reliability, Spearman-Brown (SB) reliability, frequency distribution, item difficulty, item r, Ms of variables. 253 Ss returned a completed instrument. It was found that Ind. boat owners possess a relatively low level of knowledge concerning Ind. and Federal boating laws. Laws concerning the safe operation of power boats tended to give Indiana boat owners the greatest amount of difficulty.

ITHACA COLLEGE (C. Fisher)
ITHACA, NEW YORK

126. AGNEW, Michele M. Comparisons of female teaching and coaching behaviors in secondary schools. M.S. in Physical Education, 1977, 87 p. (V. Mancini)

20 female PE secondary school instructors served as Ss to determine the diffs in their behavioral patterns while teaching and coaching. Each S was videotaped on 2 diff days. A 30 min session of teaching and a 30 min session of coaching were videotaped on each day. All videotaped sessions were coded in the use of the Cheffers Adaptation of Flanders Interaction Analysis System (CAFIAS). MANOVA determined the sig between teaching and coaching behaviors. ANOVA identified those variables that accounted for a sig amount of between group variance. Stepwise discriminant function analysis determined the contribution of the CAFIAS variables toward the between groups diffs. A sig group diff ($p < .05$) was revealed. The results illustrated that there were diffs in the behaviors of the female secondary instructors during teaching and coaching sessions. A variety of behaviors were

coded in the coaching sessions as opposed to the direct behavior observed in the teaching sessions.

127. BURTON, Alan L. Sources of hostility variance in sport situations. M.S. in Physical Education, 1977, 135 p. (C. Fisher)

An S-R (situation-response) inventory of hostility related specifically to contact sports was designed and utilized to locate the sources of behavioral variation. Ice hockey, lacrosse, and soccer athletes (n+108) from four ECAC Division I, II, and III institutions served as Ss. The S-R inventory employed a sample of 15 situations and 11 modes of response. Situations were selected from 43 possible situations on the basis of the responses of 30 randomly chosen ice hockey, lacrosse, and soccer athletes. The Likert-type sport inventory allowed Ss to register the felt intensity of their own hostile responses to the situations. A 3-way ANOVA revealed that persons, situations, and modes of response contributed 20.17%, 12.22%, and 5.07%, respectively, to the total variance. Combined simple interactions contributed 26.89%. The largest single source of hostility variance (35.35%) was contributed by the residual component. Additional analyses were carried out to answer the critics of the research paradigm. Person hostility variance was roughly twice as large as had been found earlier for person variance in anxiety situations. However, simple interactions were as important as the main effects in determining or predicting hostility behavior in sport situations. Results were supportive of the interactional position and equivalent to previous studies exploring hostility variance in non-sport situations.

128. CZARNECKI, Larry R. Sources of anxiety variance in sports situations. M.S. in Physical Education, 1977, 90 p. (C. Fisher)

An S-R (situation-response) inventory of anxiousness related specifically to football was designed and utilized to locate the sources of behavioral variation. Football athletes (n+105) from four ECAC Division III institutions served as Ss. The S-R inventory employed a sample of 13 situations and 13 modes of response. Situations were selected from 37 possible situations on the basis of the responses of 28 randomly selected football athletes. Modes of response were selected to represent positive as well as negative excitement or drive. The Likert-type sport inventory allowed Ss to register the felt intensity of their own anxious responses to the situations. A 3-way ANOVA revealed that persons, situations, and modes of response contributed 8.92%, 10.49%, and

10.04%, respectively, to the total variance. Combined simple interactions contributed 27.86%. The largest single source of anxiety variance (42.67%) was contributed by the residual component. Additional analyses were carried out to answer the critics of the research paradigm. Neither the person nor the situation contributed substantially to the total anxiety variance in football situations. Results supported the interactional position and were very similar to previous sport and non-sport research.

129. DOHERTY, Julie A. The effects of an interval training regimen on selected anthropometric measurements of female high school swimmers. M.S. in Physical Education, 1977, 76 p. (W. Straub)

130. DUDEK, Daniel M. Factors for selection of junior college basketball players. M.S. in Physical Education, 1975, 55 p. (E. Burke)

131. GETTY, Harold H. Effects of instruction and supervision in interaction analysis on the teaching behavior of student teachers. M.S. in Physical Education, 1977, 118 p. (V. Mancini)

30 PE students were randomly assigned to treatment (n=15) and control (n=20) groups to analyze their teaching behavior. During the 1st 5 wks of the semester, the treatment group participated in 15 hrs of instruction and supervision in the practical application of Cheffers Adaptation of Flanders Interaction Analysis System (CAFIAS). The control group received 15 hrs of conventional supervisory feedback at the same time. Ss were videotaped for an entire class 3 times during the semester--within the 1st 3 wks of the semester, immediately after the end of the training sessions, and 1 mo after the cessation of the training periods. Data for final analysis of teacher behaviors were collected during the 2nd and 3rd videotaping period. CAFIAS was used to analyze the teaching behavior of the student teachers. MANOVA determined the sig between groups. ANOVA identified those variables that accounted for a sig amount of between groups variance and the variance due to testing periods. Stepwise discriminant function analysis determined the contribution of the CAFIAS variables to the between groups and testing periods diffs. A sig group diff ($p < .05$) was revealed. It was concluded that the understanding and use of interactional analysis (IA) was beneficial in the instruction and supervision of student teachers and that the diffs found in their teaching behaviors immediately following the treatment were

maintained 1 mo after cessation of the training period. This lends support to the lasting effects of instruction and supervision in the practical application of coding IA on the teaching behavior of student teachers.

132. GRIFFITH, Selwyn. The effects of an adult fitness program on changes in serum cholesterol levels. M.S. in Physical Education, 1976, 69 p. (E. Burke)

133. HEGEMAN, Karen E. A kinematic analysis of the softball batting form of high and low average female batters. M.S. in Physical Education, 1976, 174 p. (H. Merrifield)

134. HULTGREN, Philip B. Development of a method to individually prescribe exercise for an initial training session. M.S. in Physical Education, 1975, 51 p. (E. Burke)

135. KAMIYAMA, Osamu. The effects of shouting on force production. M.S. in Physical Education, 1976, 70 p. (E. Burke)

136. MACCORMACK, Allan G. The relationship of selected ice hockey skills to success in ice hockey. M.S. in Physical Education, 1975, 57 p. (E. Burke)

137. MOTTA, M. The effects of two training programs on leg strength and speed. M.S. in Physical Education, 1978, 48 p. (E. Burke)

138. PIRAINO, Carin J. The effect of two decision-making models on second, third, and fourth grade children's attitudes toward physical activity. M.S. in Physical Education, 1977, 86 p. (V. Mancini)

Using the Cheffers and Mancini Human Movement Attitude Scale (CAMHM), this study examined the effect of 2 decision-making models on 252 2nd, 3rd, and 4th grade students' attitudes toward physical activity. Class units were randomly assigned to either treatment condition: teacher decision-making approach (TDMA) in which the teacher made all decisions relevant to all aspects of the program; and child decision-making approach (CDMA) in which the children were encouraged to share in decisions pertinent to class organization, execution, and evaluation. A gymnastic unit of instruction was presented to both groups twice a wk for 30 min over a 6 wk period. The results of 5 judges' responses to the decision-making criterion, as measured by the Teacher-Pupil Decision-Making

Questionnaire, verified the treatment methodology. MANOVA determined the sig between groups, and stepwise discriminant function analysis determined the contribution of the CAMHM variables toward between groups diffs. A sig group diff ($p<.05$) was revealed. It was concluded that the child decision-making model (CDMA) was the better approach for stimulation of positive attitudes toward PE.

139. ROSTAN, Raymond H. An investigation of the relationship between biorhythm theory and swimming or track performances. M.S. in Physical Education, 1977, 56 p. (E. Burke)

140. SCHEMPP, Paul G. Effects of two decision-making models on learning gymnastic skills. M.S. in Physical Education, 1977, 115 p. (V. Mancini)
132 5th and 6th grade children were used to determine the effects of 2 decision-making models on learning gymnastic skills. Class units were randomly assigned to 2 equal treatment conditions: teacher decision-making model (TDMA) in which the teacher made the decisions relevant to all aspects of the program; and shared decision-making model (SDMA) in which the students were encouraged to share in the decisions regarding class organization, execution, and evaluation. A gymnastic unit was taught to both groups in 30 min periods, twice per wk for 6 wks. Using the Teacher-Pupil Decision-Making Questionnaire on randomly selected videotaped classes, 5 judges were used to verify the treatment methodology. The ELE Gymnastic Skill Evaluation Scale was used to measure gymnastic skill learning. MANOVA determined the sig between groups. ANOVA identified those variables that accounted for a sig amount of between groups variance. Stepwise discriminant function analysis determined the contribution of the gymnastic skill variables toward the between groups diffs. A sig group diff ($p<.05$) was revealed. The results illustrated that the teacher decision-making model of teaching was superior to the shared decision-making model for 5th and 6th grade boys and girls learning specific gymnastic skills.

141. SKEFFINGTON, Christine A. Changes in calorie intake, body composition, predicted maximal oxygen uptake and strength pursuant to a trans-America cycling tour: A case study. M.S. in Physical Education, 1977, 60 p. (E. Burke)

142. VIGLIONE, Daniel J. Effects of two decision-making models on the self-concept of elementary school children. M.S. in Physical Education, 1977, 122 p. (V. Mancini)

252 ELE students were used to determine the effects of 2 decision-making models on their self-concept. Class units were randomly assigned to either treatment condition: teacher decision-making model (TDMA) in which the teacher made all decisions relevant to all aspects of the program; and child decision-making approach (CDMA) in which the children were encouraged to share in decisions pertinent to class organization, execution, and evaluation. A gymnastic unit of instruction was presented to both groups twice a wk for 30 min over a 6 wk period. The results of 5 judges' responses to the decision-making criterion, as measured by the Teacher-Pupil Decision-Making Questionnaire, verified the treatment methodology. The Martinek and Zaichkowsky Self-Concept Scale (MZACS) was used to measure self-concept. MANOVA determined the sig between groups, and stepwise discriminant function analysis determined the contribution of the MZACS variables toward between groups diffs. A sig group diff ($p< .05$) led to the conclusion that sharing in the decision-making process was beneficial to the self-concept of ELE children.

143. VOLPE, Dale E. Effects of an extensibility exercise program upon agility and extent flexibility of the groin and hamstring muscles. M.S. in Physical Education, 1977, 66 p. (C. Fisher)

Effects of an extensibility exercise program upon agility and extent flexibility of the groin and hamstring muscles were examined. Football athletes (n=50) from the IC varsity served as Ss, with equal treatment and control groups randomly assigned. The treatment group experienced an extensibility exercise program twice a wk for 6 wks in addition to the winter football conditioning program. The control group participated only in the conditioning program. All Ss were administered 4 tests in order to measure the extent flexibility of the groin and hamstring muscles and 1 test of agility MANOVA identified diffs between treatment and control groups, with the direction in favor of the treatment group. Discriminant function analysis identified which of the 5 variables contributed sig to the between groups variance. ANOVA revealed sig diffs between treatment and control groups on all 5 variables, with the direction in favor of the treatment group. It was concluded that the extensibility exercise program improved the agility and extent flexibility of the groin and hamstring muscles.

144. WHIELDON, Terry J. The effects of Jendrassik facilitation of the ipsilateral and contralateral arms upon the components of fractionated reflex time. M.S. in Physical Education, 1977, 86 p. (H. Morris)

A Lafayette Patellar Tendon Reflex Apparatus was used to deliver a standardized stimulus to the ligamentum patella of the left leg of 20 right-hand dominant college-age males. The impact of the stimulus hammer initiated a timer and an EMG which permitted the recording of total reflex time (TRT), reflex latency (LAT), and motor time (MT). MT was determined by subtracting LAT from TRT. Max grip strength was determined prior to the assessment of reflex trials. Blindfolded Ss were then measured under conditions of no facilitation, and conditions of ipsilateral and contralateral facilitation at levels of 50% and 100% intensity. An analysis of the results indicated that the Jendrassik maneuver facilitated TRT and MT with the max condition being sig superior to the 1/2 max condition. The contrast of ipsilateral with contralateral conditions, however, was not sig. LAT under max facilitation of the contralateral arm was found to be sig faster than under the normal condition.

KANSAS STATE UNIVERSITY (C. B. Corbin)
MANHATTAN, KANSAS

145. HEIDER, Ann. Social facilitation and goal setting as motivational factors affecting running performance. M.S. in Physical Education, 1976, 58 p. (C. Corbin)

146. KERMOND, John. Biomechanical parameters of punt kicking. M.S. in Physical Education, 1977, 49 p. (J. Merriman)

147. LONG, Stephen E. External heat coolants in varsity football players. M.S. in Physical Education, 1977, 70 p. (W. Zuti)

148. LOONEY, Marilyn. Differences in newspaper coverage between men and women basketball teams at Kansas State University. M.S. in Physical Education, 1977, 81 p. (C. Corbin)

149. WITTLIEFF, Mike. Volumetric gas usage of the basic sport scuba diver in water temperatures of 18.3, 22.2, 25.6 and 29.4 degrees celcius. M.S. in Physical Education, 1976, 47 p. (W. Zuti)

KENT STATE UNIVERSITY (R. Bos)
KENT, OHIO

150. NUTTER, Linda C. Effects of an audience upon performance and physiological responsiveness of athletes and non-athletes. M.A. in Physical Education, 1977, 78 p. (K. DeOreo)

This investigation employed 32 female Ss: 16 athletes and 16 non-athletes. Ss performed a coincident-anticipation task which involved finishing a response simultaneously with an external event. Ss received 10 trials with KR, during which the coincident-anticipation task was learned to criterion. When the learned criterion had been achieved, the S entered the performance phase receiving 10 trials with no KR. The S performed either alone (one experimenter present) or in the presence of an audience which consisted of 2 female observers who were watching and taking notes on the S's performance. During the performance phase electrodermal response and HR were measured. The data analysis revealed the following: the athletes performed the well-learned coincident-anticipation task sig better than the non-athletes, regardless of which audience condition they were performing; the post-stimulus HR for the audience condition was sig greater than the post-stimulus HR in the alone condition; the HR analysis demonstrated a set 20 beat pattern that can be described as a sharp rise during the 1st 7 beats following the stimulus, followed by a sharp decrease during the next 9 beats, and a slight rise the remaining 4 beats; and the electrodermal response showed a sig change over trials with the greatest response occurring in trial 6.

151. PIERCE, Paula B. A comparative evaluation of workshop effectiveness relative to student oral health behaviors and dental cognition: The Ohio program for dental health education in schools. M.A. Allied Health Sciences, 1977, 125 p. (T. Byrne)

The Oh Program for Dental HE in Schools is a statewide ELE education program for kindergarten, 2nd and 5th grades which seeks to improve the teaching of dental health and to improve the oral health practices of students. Participation in this program requires teacher attendance at a 6-hour inservice workshop prior to classroom implementation. The 6-hour time requirement is an obstacle to successful statewide program implementation, as many schools are not able to procure a day released time for their teachers. This study tested the effectiveness of a 3-hour as compared to the 6-hour workshop, relative to the oral health habits and cognitions of students. Student oral conditions were assessed under 2 measures, a gingival health index and a personal hygiene performance. These indices enabled observation of student gingival conditions and the amount of plaque on specific teeth. A questionnaire was utilized to assess the dental cognition of students at the various grade levels. Statistical analysis found both 3-hour and 6-hour workshops to sig improve student oral health practices and dental cognition. No diff was found between the 2 workshop groups.

152. SARACUSA, Donald J. A modified application of Austin's "linguistic phenomenology" to selected terms in physical education. M.A. in Physical Education, 1977, 77 p. (B. Seidel)

The language of PE contains ambiguous terms. Such terms as fitness, play, sport, athletics and games have been subjected to some form of analysis. "Movement," however, has not been analyzed. Movement seems to connote physical as opposed to mental and, therefore, its continued use may do little to eliminate the stigmatic image attached to PE by critics from various academic backgrounds. "Movement" is investigated as distinguished from the term "action", by employing a modified version of the technique of the British Ordinary Language philosopher, John L. Austin. The terms movement and action are distinguishable. Movement denotes a change in position in space and is wholly explicable in terms of the physical; that is, the laws of physics and such fields of study as anatomy, kinesiology and physiology are quite readily aligned with the term movement. Action is not wholly explicable in physical terminology for it implies intentions, motives, reasons for doing and other such related terms. The ramification of such distinctions are shown via an open-ended conceptual model.

153. SCHRUM, Dorothy C. Motor performance and assessment of trainable mentally retarded children. M.A. in Physical Education, 1977, 94 p. (K. DeOreo)

This study assessed motor performances of 159 TMR children, ages 6-14. The test battery consisted of 13 motor performance tests to assess body awareness skills, visual motor integration skills, and gross motor skills. Performance diffs among the CA groups could be blocked over 3-year intervals before sig diffs were found. 3 major age groupings were identified: 6, 7 and 8; 9, 10 and 11; and 12, 13, and 14. Body awareness and balance factors demonstrated strong commonalities across the age groupings. As CA advanced, motor performance improved. TMR children exhibited no sex diffs on motor performance tests assessing body awareness.

154. SKOVRAN, Sandra K. *The relationship between visual information processing and motor proficiency in five-year old children*. M.A. in Physical Education, 1977, 106 p. (K. DeOreo)
The study determined if 5-yr-old children displaying high or low ability to process visual information exhibited the same high-low ability in proficiency of motor tasks which were dependent upon visual information. Ss were given visual tests from the Ill Test of Psycholinguistic Abilities and Ayres' Figure Ground Test and motor tasks including 5 ball-catch tasks, 4 aerial catching tasks, 2 stationary striking tasks, 4 moving striking tasks, and a visual motor sequential memory task. Identified common factors were: vision, stationary striking, moving striking, aerial catching, bounce catching-5, and bounce catching-10. The Ss were assigned to a high or low group for each of the 6 factors. No sig relationship existed between visual processes and motor tasks requiring vision. The high vision group did not necessarily perform better on the motor tasks. A sig diff was found between high-low bounce catch-10 groups on the various visual tasks. The high bounce catch-10 group performed sig better on the vision tasks than the low group.

155. WHITE, Donald J. *Selected physiological responses of lacto-ovo-vegetarians and non-vegetarians to a program of endurance training*. M.A. in Physical Education, 1977, 70 p. (B. Hollering)
This study was an investigation of the response of lacto-ovo-vegetarians and non-vegetarians to 8 wks of endurance training. A pre- and post-training battery included hemoglobin, hematocrit, triglycerides, total protein, cholesterol, glucose, resting HR, resting BP, ht, wt, and selected skinfolds. Also, a max bicycle ergometer ride from which VO_{2-170} and VO_{2-max} were measured. PWC_{170} and PWC_{max} were also determined. The training method involved riding an ergometric bicycle for 30 min, 3/wk, alternating 5-min workloads of 300 kgm/min and 85% of max. Following the endurance training, there was no diff between the lacto-ovo-vegetarian and non-vegetarian groups for the blood components, PWC_{170}, PWC_{max} and VO_{2-170}.

LAKEHEAD UNIVERSITY (B. Rushall)
THUNDER BAY, ONTARIO

156. CROSSMAN, Jane. The effects of cognitive strategies on the performance of athletes. M.S. in the Theory of Coaching, 1977, 53 p. (B. Rushall)

This study investigated the effects of various cognitive strategies on the treadmill running performance of intercollegiate wrestlers (N=12). The independent variables were the 4 cognitive strategies presented to each S. The dependent variables were the length of time each S would perform at constant effort and intermittent HR during performance. 3 independent replications of a 4 X 4 latin square were utilized. An ANOVA revealed no sig diff in performance or HR between the 4 treatments ($p > .05$). The Ss for both performance and HR scores revealed a sig F ratio ($p < .05$). 11 Ss ran their best under a directed situation (either voluntary distraction, imagery manipulation, or task specific). One S ran his best under the unaided condition. On a post-experiment questionnaire, Ss displayed a lack of awareness of the condition which maximized their performance.

157. FOX, Randy G. The construction of an achievement motivations scale for use in sporting environments. M.S. in the Theory of Coaching, 1977, 70 p. (B. Rushall)

This study constructed an Achievement Motivations Scale, based on the Achievement Motives Scale of Nygard and Gjesme. The 28 item questionnaire was intended to be employed in the athletic environment for the purpose of measuring levels of Motivation to Approach-Success (Ms) and to Avoid-Failure (Mf) in athletes. The developed scale was then administered to 176 male and female swimmers at the 1977 Canadian Winter Swimming Championships to test the scale's value as a predictor of an athlete's predisposition to changing performance. According to Miller's theoretical model, it was expected that athletes high in Ms and low in Mf (approach-oriented) would increase their levels of performance, whereas those athletes low in Ms and high in Mf would decrease their levels of performance. An increase in performance was described by bettering one's previous best time in each event entered, while a decreased performance was described as when an athlete failed to cover the event distance at least as fast as he had done on his best effort prior to competing in the 1977 championships. It was expected that the methods of scale construction adhered to would insure that the questionnaire was fulfilling its intended purpose. The results failed to demonstrate any practical relationship between levels of achievement motivations and swimming performance. At best, in the case of the females alone, the scale was capable of predicting swimming performance only 10% of the time. This figure was less for males and the total group.

158. FRY, David C. The relationship of behavioral responses to selected swimming performance classifications. M.A. in the Theory of Coaching, 1977, 112 p. (B. Rushall)
This study investigated relationships between behavioral responses on the Psychological Inventories for Competitive Swimmers to selected performance classifications at the 1977 Canadian Winter National Swimming Championships. The responses of 176 male and female swimmers, aged 12 to 26 were obtained. At the conclusion of competition, the responses were divided into 4 groups representing social behaviors, attitudinal behaviors, activity behaviors and motivational events. These responses were compared within several performance classifications: age and sex, yrs of participation in swimming, past performance rank that had been achieved, performance rank, and performance time at the national championships. Swimmers appeared to differ in their behavioral responses based on age, yrs of participation and the level of performance time improvement or non-improvement.

159. REID, Randall W. The relationship of lower limb flexibility, strength and anthropometric measures to skating speed in varsity hockey players. M.S. in the Theory of Coaching, 1977, 71 p. (T. Song)
This study examined the relationships of flexibility, strength and anthropometric measurements of the lower limbs to the skating speed of hockey players. 17 university hockey players were assessed for: leg and grip strengths using cable-tension methods; lower limb flexibility using Leighton's flexometer and technique; anthropometry of the legs; and skating speed under standing and flying start conditions with and without a stick over 2 distances, 40 ft and 25 meters. The strength, flexibility, and anthropometric measures were the independent variables and the skating speeds were the dependent variables. The data were analyzed using the Pearson Product-Moment $\underline{r}$ and Stepwise $\underline{R}$ statistical methods ($p < .05$). The results indicated that flexibility was specific to each joint measured, there was a general strength factor and a general skating body type, 2 of the skating speed tests encompassed many factors of the other 6, flexibility was related to strength and anthropometry, strength and anthropometry were related, and flexibility and anthropometry were not related to skating speed. The regression analyses

accounted for all of the variance in each dependent variable but the variables entered were different in order and in contributory wt in each analysis. Skating speed was indicated as being specific to the distance and conditions under which it was performed.

160. TURNER, Andrew A. The effects of two training methods on flexibility. M.S. in the Theory of Coaching, 1977, 71 p. (B. Rushall)

This study examined the effects of 2 different flexibility training methods, 3S (Scientific Stretching for Sport) and SS (Slow Active Stretching). Warm-up effects, differential joint responses, and the standardization of training procedures were controlled. Ss were 12 girl basketball players, aged 12 to 14. The research design consisted of 4 replications of a 3 X 3 Greco-Latin square. Ss were assessed for flexibility at the beginning of a 6 wk flexibility training program, at the conclusion of training, and then after 2 2-wk retention periods. Data were analyzed with ANOVA and Orthogonal Comparisons ($p < .05$). Results showed: flexibility training methods (3S and SS) improved flexibility, the shoulder joint acquired more flexibility than either the knee or ankle joint, neither flexibility training method was superior to the other, with 2 wks of training cessation both 3S and SS effects were lost to a sig degree when compared to control effects, after 2 wks of training cessation, there was no diff between changes of the control and 2 training groups, and there was no diff in loss of flexibility between the shoulder, the knee and ankle joints.

LOUISIANA STATE UNIVERSITY (Jack K. Nelson)
BATON ROUGE, LOUISIANA

161. ALEXANDER, Patricia. Girls' interscholastic athletics in East Baton Rouge Parish public high schools from 1965 through 1976. M.S. in Physical Education, 1977, 226 p. (H. Fant)

A historical account of the growth and status of the girls' athletic programs in East Baton Rouge Parish focused on the scope of the program, availability of facilities, scheduling, release time and financing of the programs. The study encompassed 18 public HSs. Data were collected primarily through interviews with coaches and principals. Other sources of data were school yearbooks, DGWS Reports, State Rally Bulletins, LA HS Athletic Association Handbooks and other records. Among the findings were that coaches of girls' sports were not paid before 1975-76; there had been a gradual increase in the scope of girls' athletics over the period of study; athletic facilities were generally suitable, and very little conflict with the boys' programs was reported. Financing of girls' athletics was the responsibility of the individual school rather than the School Board.

162. CLARKE, James S. The historical development of the national intramural-recreational sports association: 1950-1976. M.S. in Recreation, 1977, 219 p. (M. Life)
The events, achievements and trends associated with the development of the NIRSA were investigated. Data were gathered from annual conference proceedings, personal correspondence, interviews and physical relics. Internal and external criticism were applied. Each of the association's 27 annual conferences was reviewed with regard to program, business and social highlights. Committee functions, the role of women and the impact of related professional organizations were also analyzed. It was found that the organization has experienced dramatic growth in membership, financial support, research, special projects and professional preparation. Student participation has been especially noteworthy. The past, present and future success of the organization rests largely with the efforts and dedication of the leaders in conjunction with the personal involvement of the membership.

163. DUGAS, Donna M. The effect of an audience upon the performance of four simple motor and associative tasks. M.S. in Physical Education, 1977, 81 p. (M. Patterson)
Female HS non-athletes (N=54) were randomly assigned to 3 groups: control, small-audience (4-6) and large audience (25-30). 4 motor tasks were administered, each consisting of a timed performance. 3 trials were given on each task with each S being tested alone using a one-way mirror; the tests were then administered in the audience situations the following day. A factorial ANOVA revealed no audience effects on performance. All groups improved sig from the 1st test administration to the 2nd.

164. SMITH, Essie D. Sportsmanship evaluation of athletes and non-athletes in junior and senior high schools. Ed.D. in Physical Education, 1977, 65 p. (M. Life)
Male and female athletes (N=120) and male and female non-athletes (N=120) in grades 7 through 12 were compared on sportsmanship attitudes. The responses of the athletes were also analyzed with regard to years of competitive experience. Form A of the Haskins Action-Choice Test for Competitive Sports was utilized. ANOVA was used to test for diffs between

the sexes and between athletes and non-athletes in the 6 grades. ANCOVA was used to compare responses of male and female competitors as to yrs of experience. No diffs were found between athletes and non-athletes. Overall, females exhibited higher scores on the sportsmanship test than males. Yrs of experience was not a factor in sportsmanship in either sex.

165. THOMAS, Luke E. Effects of relative humidity on perceived exertion. Ph.D. in Physical Education, 1977, 93 p. (J. K. Nelson)
Male Ss (N=24) ages 19-29 were tested under 3 conditions of relative humidity: 40-50, 65-75 and 90-100%. The temp for each condition was 25°C. A counter-balanced practice order was followed. Ss pedalled on a bicycle ergometer at 50 rpm for 5 mins. The workload was 150 kpm/min for the 1st minute and was increased by 300 kpm each min thereafter. The Borg RPE scale was employed for perceived exertion responses. HR was monitored electronically. ANOVA failed to reveal any diffs in RPE among the 3 humidity levels. RPE and HR increased linearly with increased workload. Increases in relative humidity produced disproportionately greater increases in HR with increased workloads.

MANKATO STATE UNIVERSITY (Donald Buchanan)
MANKATO, MINNESOTA

166. BRANVOLD, Scott E. The effects of badminton instruction on the tennis skill of college students. M.A. in Physical Education, 1977, 50 p. (J. Llewellyn)
The effects of badminton instruction on the tennis skill of college men and women of low and moderate tennis ability was investigated. The Ss were 109 college students from 5 badminton service classes at MSU. Each S was given a tennis skills test prior to 6 wks of badminton instruction. Following this instruction, the Ss were again given the tennis skills test, and pre-test means were compared with post-test means to determine what, if any, transfer effects occurred. A 2-tailed *t*-test was used to determine whether sig change had taken place for the sample as a whole and for various subgroups of the sample. Results indicated that sig improvement in the group as a whole had taken place, and that this improvement can be attributed to the improvement in low tennis skill Ss, primarily low tennis skill females. Moderate tennis skill Ss did not improve sig.

MARQUETTE UNIVERSITY (F. L. Steeves)
MILWAUKEE, WISCONSIN

167. LUEBKE, Laura L. A comparison of the effects of two programs of elementary physical education on the self concept, knowledge of physical activity and physical fitness of third grade children. Ph.D. in Education, 1977, 179 p. (F. Steeves)

3 classes (N=73) were randomly assigned to a teacher-directed study program of basic motor skills, a teacher-guided study program of exploration of selected movement elements, and a control program of no planned physical activity. Study groups met for 26 30-min lessons. Variables were measured by pre- and post-program administrations of the CAHPER Fitness-Performance Test, Piers-Harris Children's Self-Concept Scale, and AAHPER Cooperative PE Test, Form 4A, modified. Time in activity was quantified through 3 timed observations of each study group participant. ANCOVA, ANOVA, and Pearson r were employed to examine effects by program and across programs, and changes in over-all patterns. No diffs were observed in main effects of the 3 variables across the 3 programs. Subsequent analysis indicated the study programs to be equally effective ($p < .05$) in promoting positive changes in fitness and knowledge and in strengthening the inter-relationships among the variables. Both programs were more effective than the control ($p < .05$) in strengthening inter-relationships. No program produced sig change in self concept. Time in activity for the movement participants was sig greater ($p < .05$) than that of standard program participants.

MONTCLAIR STATE COLLEGE (R. K. Arnold)
UPPER MONTCLAIR, NEW JERSEY

168. HOFFMAN, Natalie S. A study of the ages of female Olympic place winners in selected sports in the Olympic Games of 1948, 1952, 1956, 1960, 1964, 1968, and 1972. M.A. in Physical Education, 1977. (H. Wacker)

A survey was conducted of women's participation in the Olympic Games to determine the relationship between age and physical performance in selected activities. The problem was to study the ages of female athletes placing 1st through 5th in Olympic swimming, track and field, and gymnastics for the Olympic Games from 1948 through 1972, and to ascertain if there is evidence that younger female athletes are placing 1st through 5th in these sports. ANOVA and individual t-tests were used to evaluate the diffs in age from yr to yr in each sport studied. The following conclusions were drawn: in Olympic swimming and gymnastics there was a statistically sig decrease ($p < .01$) in mean age for the female place winners from 1948 to 1972, showing a definite trend toward younger female athletes placing 1st through 5th in these 2 sports; in Olympic track and field there was no statistically sig change in mean age for the female place winners from 1948 to 1972.

169. RIDSDALE, Susan P. Developmental trends in the effects of contingent and noncontingent rewards upon intrinsic motivation and performance quality. M.A. in Physical Education, 1977, 103 p. (R. Arnold)

Strong support was provided for the contention that allocation of extrinsic rewards undermines intrinsic motivation (IM). 6 and 8 yr-old males, screened for initial presence of IM for the target task, were equally assigned (within age levels) to 1 of 3 treatment conditions (N=72). Employing a beanbag toss, Ss were rewarded during the testing session: contingently upon number of points scored, noncontingently for engaging in the task, or no reward was administered. Performance quality as well as task enjoyment was assessed. 2 days later, all Ss returned for a 10 min free-play session where other activities were present, but no rewards were administered. Performance quality and task enjoyment were again assessed along with initial contact and persistence at the clown task. ANOVA and follow-up multiple comparison tests for both persistence and performance quality revealed contingently rewarded Ss engaged in the clown activity for sig less time than either the noncontingent or control groups. In addition, 8 yr-olds displayed a decrease in task enjoyment. ANOVA results also indicated performance improvement during the free play session. However, these findings were attributed to a learning effect present for 6 yr-olds but not for 8 yr-olds. Results of this study lend particular credence to the growing contention that the allocation of extrinsic rewards within the sports milieu may indeed have deleterious effects upon the IM of young athletes.

170. SEMLER, Lorrie R. The effects of selected recall strategies upon reproduction cues in motor short-term memory. M.A. in Physical Education, 1977, 32 p. (J. Toth)

The effect of adopting counting and imagery strategies during conditions of location and distance cues over 3 criterion lengths was investigated. 30 right-handed male and female MSC students, aged 18-43 yrs, volunteered to serve as Ss.

The task involved moving the cursor on the linear positioning apparatus to reproduce either the location or distance of an E-defined position. 1 exp group counted aloud beginning with number 1 during the criterion and recall movements. The 2nd exp group utilized an imagery strategy; the Ss named aloud that part of the body to which the cursor was aligned during each phase of the criterion and recall movements. The starting position of recall was varied to make distance and location information unreliable. Each S was administered 24 trials during 1 testing session. ANOVA on CE, AE, and VE revealed no sig diff between the imagery and counting groups. However, Ss appear to be more accurate in reproducing movements of location rather than distance, although upon recall an overshooting occurred across all movement lengths in the 2 exp groups, with both location and distance cues.

NEW YORK UNIVERSITY (R. A. Weiss)
NEW YORK, NEW YORK

171. KARPER, William B. A study of physical education injuries among handicapped and non-handicapped children. Ed.D., 1977, 100 p. (R. Weiss)

The investigator compared injuries (incidence and nature) of handicapped children (EMR, NI, and ED) to those sustained by non-handicapped children on the ELE level (K-6). PE injury data were collected from PE teachers in 10 NJ school districts. Data were collected, by mail, once per mo for 6 mos during the 1976-77 school yr. It was found that the handicapped children sustained a greater incidence of injury than the non-handicapped children and that handicapped and non-handicapped children injured similar body parts. Information regarding a relationship between type of injury and being handicapped or non-handicapped was conflicting. All 3 classifications of handicapped children sustained similar types of injuries, and injured similar body parts. However, the 3 classifications of handicapped children sustained different incidence of injury.

NORTHEASTERN UNIVERSITY
BOSTON-BOUVÉ COLLEGE
BOSTON, MASSACHUSETTS

172. BELL, Donald. A comparative study of two strategies for seventh grade health education. M.S., 1976, 65 p. (S. Robinson)

173. CICCIARELLA, Charles. The effect of oxygen pressure and total pressure on the life span of the vinegar fly. M.S., 1977, 43 p. (C. Christensen)

174. DeLEO, Catherine. A study of goals and objectives of graduate outdoor education programs at four year college and universities. M.S., 1976, 76 p. (S. Dawson)

175. DiMARCO, Rosemarie. The effect of cooperative education on attitude and grades: Retrospective views of college graduates. M.S., 1976, 39 p. (R. Morrison)

176. FLEDDERJOHN, Judith. The relationship between the personality structure of college female athletes and their choice of intercollegiate sports participation. M.S., 1976, 68 p. (S. Robinson)

177. FORTOSIS, David. An analysis of Wheaton College's wilderness stress program. M.S., 1977, 130 p. (A. McCay)

178. GUERRIER, Kathleen. The effect of an intergenerational program on the rate of participation in total recreation activities for nursing home residents. M.S., 1976, 44 p. (A. Sayed)

179. HAMMOND, Robert T. An investigation of bicycle accidents in the town of Marblehead with guidelines for the safety program for children between the ages of seven and fifteen. M.S., 1977, 60 p. (A. McCay)

180. KOCZAN, Joyce. A survey of the attitudes of handicapped children toward the non-handicapped. M.S., 1977, 41 p. (A. Sayed)

181. KONIECZNY, Christine. Adapted physical education in Massachusetts public high schools. M.S., 1977, 85 p. (R. Morrison)

182. KOORIS, Holly. Poetry therapy group writing techniques for use in an in-patient psychiatric setting. M.S., 1976, 153 p. (A. McCay)

183. KUNTSLER, Robin. The interrelationship among education, experience, salary and status of nursing home activities directors. M.S., 1976, 48 p. (A. Sayed)

184. NEWCOMB, Paula. *West end house, Inc.: Strategies for improved financial management*. M.S., 1977, 41 p. (R. Morrison)

185. PAGE, Richard. *A study of the relationship between socio-economic factors and attendance of boys in an after-school recreation program*. M.S., 1977, 29 p. (A. McCay)

186. ROSENSTEIN, Steven. *The effect of music therapy program on selected behavioral characteristics of regressed nursing home patients*. M.S., 1976, 46 p. (A. Sayed)

187. SULLIVAN, Daryl. *Effects of a dance therapy-values clarification program on the perception of inner feelings of mentally retarded*. M.S., 1977, 64 p. (A. Sayed)

188. SWASEY, Ronald. *The orderly development of a summer teen center program in Wilmington, Massachusetts*. M.S., 1976, 48 p. (A. McCay)

189. WALKER, Richard. *The history and land use potential of Brooksby Farm, Peabody, Massachusetts*. M.S., 1977, 59 p. (A. McCay)

190. WELCH, Barry T. *The effect of income on the willingness to pay user fees for municipal recreation*. M.S., 1977, 33 p. (R. Morrison)

191. YAGLOU, Grace. *Evaluation of an alternative program within traditional high school by examination of three areas of affective learning*. M.S., 1977, 68 p. (S. Robinson)

NORTH CAROLINA CENTRAL UNIVERSITY (Ross E. Townes)
DURHAM, NORTH CAROLINA

192. SANDERS, Bobby L. *Relationship between group cohesion scores and final standings of open-league softball teams*. M.S. in Physical Education, 1977, 46 p. (R. Townes)

21 open-league softball teams from the metropolitan area in the city of Raleigh, NC were used in this study. The sample consisted of 14 all-white teams, 6 integrated teams, and 1 black team. The Functional Choice Test was administered to

these teams, and the Group Cohesion Score was determined by dividing the total choices minus the total rejection by the no. times the no. minus 1. The rank-order method was used to determine the relationship between these 2 variables. A low negative relationship was found between group cohesion and final standing of these softball teams.

193. SHAW, Howard M. Analysis of student participation in small groups at North Carolina Central University. M.S. in Recreation, 1977, 62 p. (T. Manly)
A social organization questionnaire composed of 51 items was administered to 300 Ss. The 50 organizations surveyed ranged from Greek Letter organizations to departmental organizations. Social, physical, emotional, and mental reasons for joining small groups were assessed. It was found that undergraduate females joined small groups for social reason, while undergraduate males joined small groups for physical reasons. Age and class were found to be insig determinants in relation to the social, physical, emotional, and mental factors.

194. VAUGHAN, Samuel E. The effectiveness of the jab step versus the cross-over step in movement time. M.S. in Physical Education, 1977, 50 p. (J. Rowe)
2 groups of Ss were randomly selected from 7th grade males 12 and 13 years of age. Each S was pre-tested on both the jab and cross-over steps, executing each step 3 times. The Ss were post-tested after an 8 day training program spread over 3 wks. The DeKan Automatic Analyzer was used to time each S as he executed the step and ran a 5.5 m distance. There was a sig diff between group I and II on the cross-over step in the pre-test ($p < .05$). The diff between the jab step and cross-over step on the post-test was sig ($p < .05$). The cross-over step was sig superior to the jab step in movement time.

NORTH TEXAS STATE UNIVERSITY (Robert W. Patton)
DENTON, TEXAS

195. FABRIZIO, Anthony N. The effect of rapid weight loss on the efficiency of wrestlers under simulated competitive conditions. M.S. in Physical Education, 1977, 56 p. (R. Patton)
This study attempted to determine the effects of rapid wt loss on wrestlers' efficiency incorporating competitive aspects of the sport into the research procedures. Ss were 6 members of the NTSU Wrestling Club. 8 cardiovascular and

neuromuscular measurements were taken and recorded before and after treatment. Astrand's bicycle ergometer test was utilized to obtain exhaustive HRs. Data were analyzed by a 1-tailed t test ($p < .05$). Conclusion of the investigation was following 6.25% rapid loss of body wt, over a period of 1 wk, no loss of efficiency occurred among wrestlers under simulated competitive conditions.

196. DUNN, Judy. A comparison of selected coachability traits as ranked by male and female coaches. M.S. in Physical Education, 1977, 55 p. (S. Rice)
This study was to investigate the diffs and relationships in how male and female coaches assess certain coachability traits. Ss were 25 male coaches and 25 female coaches who met the designed criteria. The testing instrument was a questionnaire designed so that each of the 10 coachability traits would be compared to the other 9 traits by use of paired-comparisons. Raw score totals for each trait were recorded and used to establish a ranking by male coaches and by female coaches. Data were analyzed by a Person r and by ANOVA. Findings of this study were that no sig diff existed between the ranking of the 10 coachability traits by the male and female coaches, and there was a high relationship between the ranking of the male coaches and the ranking of the female coaches. The conclusion of this study was that the 2 groups of Ss are very similar in the selection of coachability traits.

197. HIBBARD, Jeana E. Male attitudes toward sport participation by females. M.S. in Physical Education, 1977, 85 p. (P. Richardson)
This study determined male attitudes when age, educational level, and sport backgrounds were considered on nine subscales concerning sport participation by females. Ss were divided by males under 30 and 35 yrs of age and over, college educated and non-college educated males, and males with active-semiactive sport backgrounds and males with nonactive sport backgrounds. The Ss were 186 male employees of the City of DeSoto, TX, employees of Air Products and Chemicals, Incorporated, and students at NTSU. A 51 item attitude inventory developed by the investigator was the instrument utilized in the study. Data were analyzed by a 3-way ANOVA and Scheffe's test for multiple comparisons ($p = .05$). Conclusions of this study were that males of various ages, educational levels, and sport backgrounds do not differ in their attitudes and possess favorable attitudes toward female sport participation. Males with nonactive sport backgrounds were sig more favor-

able than males with active-semiactive backgrounds on the subscale concerning the male as spectator for female sporting events.

198. POTEET, Don A. Survey of non-triple option and triple option football formation success in class AAAA Texas high schools from 1968 to 1975. M.S. in Physical Education, 1977, 47 p. (J. Watson)
This study was designed to survey the 239 Class AAAA HSs in TX from 1968 to 1975 to determine the number of HS football teams that changed from a non-triple option to a triple option type offensive formation and also to determine the diff in the no. of wins of non-triple option and triple option teams. Computation of data revealed that in 1968 most teams used a non-triple option formation, but there was a steady trend to change to a triple option formation. Also, in no year was there a sig diff in the number of wins of non-triple option and triple option teams. Cumulatively over all 8 yrs there was no sig diff in the no. of wins of non-triple option and triple option teams. The conclusion of this investigation is: the type of offensive football formation does not sig affect the prospects of winning or losing games.

199. QURAISHI, Abdul S. Study of the programs of professional preparation in physical education colleges in India: Comparison of the programs with the recommendations made by a National Conference on Professional Preparation in Health, Physical Education and Recreation Education, Washington, D.C., 1962. M.S. in Physical Education, 1977, 123 p. (J. Douthitt)
This study made a survey of the programs of professional preparation in PE colleges in India and compared the programs with the recommendations of the National Conference on Professional Preparation in HPER, Washington, D.C., 1962. Data for the school year 1972-73 were obtained through the syllabi, outlines of the programs and the questionnaires returned by the head of PE institutes in India. From a total of 37 questionnaires sent, 16 were returned, representing 14 different institutions. The emphasis on higher education in PE was a recent development. The programs in India showed some diversity among the institutions regarding the length of time required to complete the courses and minimum qualifications prescribed for admission to the program. The programs did not meet the recommendations of the conference either in length or content. The newer programs more nearly met the recommendations.

200. STEINFELD, Janis T. An evaluation of therapeutic recreation services provided for psychiatric patients in the state of Texas. M.S. in Recreation, 1977, 77 p. (D. Christianson)

This study attempted to delineate current practices in therapeutic REC in psychiatric treatment centers in TX, and to evaluate these programs in terms of the National Therapeutic REC Society's "Standards for Therapeutic REC in Psychiatric Facilities". Ss were the 42 hospitals with REC programs responding to a mailed questionnaire. Descriptive analysis was used. It was determined that: most REC programs are not administratively independent, there is a close affiliation between REC services and occupational therapy, very few of the REC directors had any formal REC training, formal procedures are extremely diverse, REC facilities and activities appear extensive, use of community resources is widespread, follow-up services and leisure counseling are undeveloped, milieu theory is exercising much influence on REC services, and unitization is not widespread. The evaluation showed limited compliance with the NTRS standards with the most apparent deficiency being a lack of trained REC personnel.

201. SUMMERS, William L. A survey of parent attitudes toward competition in youth soccer leagues. M.S. in Recreation, 1977, 59 p. (D. Bailey)

The purposes of the study were to determine and compare parental attitudes (male and female) toward competition for 6-, 7-, 8-, 9-yr old boys participating in youth soccer leagues and to reveal where any sig diffs occurred in order to identify specific areas of concern for evaluation. The data obtained through the use of SAI from the 193 parents who participated in the study revealed that the parents held positive attitudes toward intensive competition in youth soccer leagues. Additional analysis of data revealed that attitudes of parents of boys 6 and 7 yrs old did not differ sig from those attitudes held by parents of boys 8 and 9 yrs old. An ANOVA revealed a diff ($p < .05$) between the attitudes expressed by mothers of sons under 10 and fathers of sons under 10 yrs of age. The mothers of sons under 10 expressed a sig more positive attitude toward competition for their sons than did fathers of sons under 10 yrs of age.

THE OHIO STATE UNIVERSITY (Seymour Kleinman)
COLUMBUS, OHIO

202. ANYANWU, Samuel U. Physical fitness of Nigerian youth. Ph.D. in Physical Education, 1977, 262 p. (D. Mathews)

203. CURRENS, James W. An applied behavior analysis training model for preservice teachers. Ph.D. in Physical Education, 1977, 270 p. (D. Siedentop)

204. DANIELS, Mary A. The historical transition of women's sports at The Ohio State University, 1885-1975 and its impact on the national women's intercollegiate setting during that period. Ph.D. in Physical Education, 1977, 400 p. (C. Mand)

205. DURRANT, Sue M. States of consciousness and the sport experience. Ph.D. in Physical Education, 1976, 148 p. (S. Kleinman)

206. HAGERMAN, Gene R. Metabolic evaluation of international caliber lightweight oarsmen. Ph.D. in Physical Education, 1976, 116 p. (E. Fox)

207. HORN, Joe R. The life and professional contributions of Paul Ellwood Landis to physical education programs in Ohio and the United States. Ph.D. in Physical Education, 1976, 268 p. (B. Bennett)

208. HUTSLAR, Sarah C. The effects of training cooperating teachers in applied behavior analysis on student teacher behavior in physical education. Ph.D. in Physical Education, 1976. (D. Siedentop)

209. LESMES, George R. Metabolic responses of young females to different frequencies of spring versus endurance interval training. Ph.D. in Physical Education, 1976, 93 p. (E. Fox)

210. MARTIN, Frank L. Effects of the menstrual cycle on metabolic and cardio-respiratory responses. Ph.D. in Physical Education, 1976, 121 p. (E. Fox)

211. MASHIACH, Asher. A study to determine the factors which influenced American spectators to go to see the summer Olympic games in Montreal, 1976. Ph.D. in Physical Education, 1977. (D. Harper)

212. MASON, Gary I. Superordinate and subordinate role preferences of peer-selected leaders and their teammates on women's intercollegiate volleyball teams. Ph.D. in Physical Education, 1977, 108 p. (S. Kleinman)

213. McCALEP, George O. Contingency management in the junior high school. Ph.D. in Physical Education, 1977. (D. Siedentop)

214. McKENZIE, Thomas L. Development and evaluation of a model behaviorally-based teacher training center for physical educators. Ph.D. in Physical Education, 1976, 164 p. (D. Siedentop)

215. MOORE, Gary K. Resident school camping: A descriptive analysis. Ph.D. in Physical Education, 1977, 135 p. (C. Mand)

216. PENLAND, Lynn R. The relationship of nutrition knowledge and attitudes to previous nutrition education experiences of post partum patients. Ph.D. in Health Education, 1976, 167 p. (M. Beyrer)

217. QUARLES, Mary A. Organization and governance of men's and women's athletic programs within the big ten conference: A central administrative analysis of structure and administration. Ph.D. in Physical Education, 1977, 207 p. (L. Hess)

218. ROBERTSON, David F. The history and development of men's intercollegiate swimming in the United States from 1897 to 1970. Ph.D. in Physical Education, 1977, 509 p. (L. Hess)

219. ROTHWELL, William J. The life of Victor Heyliger and his contributions in the establishment and development of intercollegiate hockey in the United States. Ph.D. in Physical Education, 1977, 251 p. (C. Mand)

220. SERVEDIO, William. A study of the utilization of university and college physical activity facilities by community members in selected urban areas. Ph.D. in Physical Education, 1976, 136 p. (C. Mand)

221. THOMPSON, Carol A. *The development of Girls' interscholastic basketball in Ohio: 1940 to 1976*. Ph.D. in Physical Education, 1977, 175 p. (B. Bennett)

222. WAMBOLDT, Constance. *Organization and governance of men's and women's athletic programs within the big ten conference: A structural and administrative analysis*. Ph.D. in Physical Education, 1977, 250 p. (L. Hess)

223. WEST, Norman W. *The effect of instruction in family planning on knowledge, attitudes and behavior of London (Ontario) senior secondary school students*. Ph.D. in Health Education, 1976. (R. Kaplan)

224. WESTCOTT, Wayne L. *Effects of teacher modeling on the subsequent behavior of students*. Ph.D. in Physical Education, 1977, 267 p. (D. Siedentop)

OKLAHOMA STATE UNIVERSITY (Aix B. Harrison)
STILLWATER, OKLAHOMA

225. CAMPBELL, Kathryn D. *The validity of work loads at 180 and 190 heart rate as a predictor of maximal oxygen consumption of endurance trained college female athletes*. M.S. in Physical Education, 1977, 57 p. (A. Harrison)

28 Ss, 7 each from field hockey, basketball, track and swimming were randomly selected from varsity teams. Ss walked the treadmill to max with expired air samples being taken for analysis and VO_2 calculation at HR 180 and 190. It was found that the Balke regression line for men at a HR 180 was a valid predictor of max VO_2 for these females using either HR 180 or 190 ($r = .81$) It was concluded that HR 180 could be used as a valid cut off point in a treadmill procedure for predicting max VO_2 of endurance trained women athletes.

226. CHAISER, Susan. *The energy cost of trampolining*. M.S. in Physical Education, 1977, 71 p. (A. Harrison)

40 students, 20 males and 20 females from Oral Roberts University were Ss for this study. They were divided into groups of 10 each based on skill level to study the calorie cost of straight jumping on the trampoline and to see if there were diffs between the groups. Mean energy expenditure while jumping 18 in. high was 10.2 cal./min. The males burned sig more calories than the females. There were no

sig diffs between any of the groups while doing an 8 in. jump. It was estimated that a person jumping 8 in. high will earn .29 aerobic pts/min while a person jumping 18 in. high will earn .59 aerobic pts/min.

227. CRAWFORD, Margaret. Identifying the movement learning areas applicable to the growth and development of the five year old child. Ed.D. in Physical Education, 1977, 164 p. (B. Abercrombie)
Questionnaire data received from 45 ELE PE specialists and 43 growth and development specialists was used to identify the areas considered to be most important for inclusion in a movement curriculum for 5 yr old children. A factor analysis was run to attempt to identify specific theoretical dimensions. ANOVA was used to test for diffs between the PE and growth and development specialists and between men and women specialists. Results indicated 11 areas that were felt to be most important. Factor analysis revealed the emergence of 6 theoretical dimensions which were identified and labeled.

228. DONATH, Donald. A comparison of the traditional method with the movement education and their contributions to physical fitness of elementary children. Ed.D. in Physical Education, 1977, 122 p. (A. Harrison)
4 classes of 5th grade students served as Ss for the study. 2 classes were taught by the command method and 2 by movement education. Pre- and post-physical fitness measures were taken around a 9 wk unit including the same basic activities for both classes. ANOVA was used for the statistical analysis. The command group showed sig greater improvement in spinal flexion. The movement education group showed sig greater improvement in the 8 min/run. There were no other sig diffs.

229. EDGLEY, Betty. The validity of work loads at 180 and 190 heart rates as predictors of maximum oxygen consumption for college women. Ed.D. in Physical Education, 1977, 81 p. (A. Harrison)
60 female students served as Ss for the study. 20 were randomly selected from among HPELS majors, 20 from service classes, and 20 from women's varsity sports teams. Ss walked to max work output at 3.4 mph using Balke treadmill protocol, with expired air samples being taken at HR 180, 190 and max for O_2 consumption calculation. Data indicated that the time to reach HR of 180 and 190 correlated well

with max VO_2 for the entire population. HR 190 correlated best with max VO_2 among the HPELS majors. The service class group took sig less time to reach HR 180, 190 and max than the other groups.

230. O'BANNON, MELVIN. Relationship between the acquisition of a motor skill and field independence-dependence of sixth grade children. Ed.D. in Physical Education, 1977. (A. Harrison)

73 6th grade students (32 male, 41 female) served as Ss for this study. They were given an embedded figures test and a rod and frame test to determine field dependence-independence. They were taught a juggling skill as a measure of motor skill acquisition. After testing, Ss were divided into 4 groups by sex and field dependence-independence and compared by ANOVA for diffs in learning the juggling skill. There was no sig diff between groups in acquiring the motor skill. The boys learned the skill faster than the girls.

231. RUTHERFORD, JoAnn. Women's intercollegiate athletics in the USA: A geographical examination, 1971-1977. Ed.D., 1977, 168 p. (J. Rooney)

Questionnaire data were received from AIAW member schools, with a 57% response and returns from 48 states. The following areas were studied: the no. of sports offered, no. of contests played in each sport, degree of participation in each sport, national winners 1971-77, budgets, scholarships and characteristics of schools that have outstanding win-loss records in women's sports. Basketball proved to be the most popular sport nationwide. It was found that the Northeast section of the country offered the most in the way of scholarships for women athletes.

OLD DOMINION UNIVERSITY (M. H. Williams)
NORFOLK, VIRGINIA

232. DETWEILER, Gary R. The effect of various training frequencies on running endurance capacity of primary grade children. M.S. in Education, 1977, 42 p. (M. Williams)

The effect of various training frequencies on running endurance capacity of 408 primary age children was studied. Of 6 groups each from grades 1, 2, and 3, 1 group each trained either 1 (G1), 2 (G2), 3 (G3), or 4 (G4) days per wk. 1 group served as a control (C) and the 6th group (G440) ran 440 yds twice a wk. Running for the 1st 4 groups consisted of 880 yds the 1st 2 wks, 1320 yds on the 3rd and 4th wk, and 1 mile on the 5th and 6th wk. A 1 mile run-walk test was given at the beginning and end of the 6 wk training period. Results indicated G3 and G4 improved sig over G1, G2, G440 and C. G4 was superior to G3. Boys were found to be superior to girls and no sig diff was found between black and white students' performance. In regard to grade level, 3rd grade students were superior to 2nd and 1st grade students; however, no sig diff was found between 2nd and 1st grade students' performance.

233. FLEET, Mary L. Comparison of the Belgrad skin suit to a conventional race suit in the swimming speed of females. M.S. in Education, 1976, 53 p. (M. Williams)
The effectiveness of a skin suit to increase swimming speed in the 25 yd front crawl stroke was evaluated. Testing involved 30 female Ss, 15 each of competitive and non-competitive swimmers. The experiment involved both groups being tested twice under 4 conditions, for a total of 8 trials: a conventional suit (CS) alone; CS with an orange juice placebo suggested to be a supplemt energy producer; a Belgrad skin suit (BSS) alone; and BSS with the placebo. A 2 factor mixed design ANOVA with repeated measures on 1 factor and 3-factor ANOVA with repeated measures were computed to study the interactions between suits, placebo conditions, and groups involved. Based on the statistical analysis, no sig diff ($p < .05$) was found between the BSS and CS. Therefore, it was concluded that the BSS would not enhance swimming speed in the 25 yd front crawl.

234. RAND, Kenneth T. A dynamic test for comparison of rebound characteristics of three brands of tennis balls. M.S. in Education, 1976, 72 p. (M. Williams)
Dunlop (DB), Spalding (SB) and Wilson (WB) pressurized tennis balls were tested for rebound when fatigued at trial intervals of 0 (T1), 800 (T2), 1,600 (T3), 2,400 (T4), 3,200 (T5) and 4,000 (T6) bounce impacts. 18 yellow tennis balls, 6 WB, DB and SB were randomly placed in a control (C) or exp (E) group. C was not subjected to any fatigue. E was fatigued by use of a tennis ball firing machine. Both groups were filmed for rebound height with a camera and strobe light assembly after each fatigue interval. The main statistical analysis included a 3-factor repeated measures ANOVA and an ANCOVA repeated measures with the covariate held constant. The analysis revealed no sig diff between the main effects of C and E balls, but a sig interaction between balls and trials; the interaction occurred between T1 when the balls were new and T2 when the exp balls had received

800 bounce impacts; SB rebounded sig higher than WB both when the balls were new and throughout the trials. No other sig diff was found between brands; and a sig diff across trials. From T1-T5, all balls rebounded sig higher than T6. Thus, tennis balls may remain out of their pressurized cans for 172.5 hours before there is a sig lowering in rebound height. When the 3 brands were equated statistically at T1, no sig diff was found across trials.

THE PENNSYLVANIA STATE UNIVERSITY (Karl G. Stoedefalke)
UNIVERSITY PARK, PENNSYLVANIA

235. AHLBRANDT, Ronald H. The effects of participation in a Naturalist Aide Program on the self-concepts of Senior Citizens. M.S. in Recreation and Parks, 1977, 160 p. (H. Lundegren)

During a 16 week exp senior naturalist volunteer program offered at the Briar Bush Nature Center, Abington, PA, the self-concepts of 8 senior naturalists and 18 control group Ss, ages 60-85, were investigated using the Tn. Self-Concept Scale (TSCS). Findings derived from application of the Mann-Whitney U test and Wilcoxon signed ranks test to pre- and post-test TSCS scores indicate that no sig change in self-concept dimensions occurred for the control group Ss or the senior naturalists who participated in the exp program. As a follow-up to the main study, the senior naturalists were administered another testing of TSCS after an additional 10 wk period and a sig position change in the TSCS dimension of behavior was experienced by senior naturalists. Factors influencing this change may be related to the involvement of the senior naturalists in leadership roles and the development of a mini-training program for the senior naturalist by a fellow senior volunteer. The findings imply that the senior naturalist volunteer program designed for this study may provide the necessary influences for changing some dimensions of self-concept in senior citizens.

236. AHRENHOLD, Franz P. A comparison of the use of nautilus equipment and Olympic barbells in the development of muscular strength. M.S. in Physical Education, 1977, 52 p. (C. Morehouse)

Varsity football players (N=40) at PSU were assigned to 2 exp groups. Group N (N=21) trained in the behind-the-neck press exercise on the Nautilus Double Shoulder machine. Group W (N=19) trained with the same exercise, but used Olympic barbells. Both groups underwent the same training program, which included 1 set of 8-12 RM in the behind-the-neck press in addition to 3 other wt training exercises. Training was performed 3 times per wk, on alternate days, for a period of 6 wks. A pre- and post-test were performed by means of a 1 RM in the behind-the-neck press. All Ss performed these tests on the Universal Centurion 11/DVR Shoulder Press Station. An independent *t*-test, performed on the pre-test data, showed the exp groups were similar in mean strength scores prior to training. Within-group comparisons showed that both groups gained sig in strength during the exp period. An independent *t*-test on the post-test data showed the groups were still similar at the end of the training period. From these data, it was concluded that similar strength gains occur from training on Nautilus equipment and training with barbells, if training protocol is held consistent for both groups.

237. BEARD, Marie D. *A ten minute test for aerobic capacity for twelve to fourteen year old girls*. M.S. in Physical Education, 1977, 48 p. (J. Hodgson)
To evaluate the effectiveness of a 10 min run-walk test as an indicator of cardiorespiratory fitness, 19 girls aged 12, 13 and 14 yrs were tested for VO_2max and VO_2 at specific velocities. 2 10 min run-walk tests were performed on separate occasions. Linear equations were determined between velocity and VO_2 for the total group, 7 track participants, and 12 nonparticipants. Comparisons were made between the prediction equations of VO_2max of the present study and those of Balke, Cooper, Margaria, and Dill which utilized average running velocity. The *r* of measured VO_2 and treadmill velocity was .89 ($p > .01$) with a linear relationship of $\hat{y} = .208v + 5.78$. There was a sig ($p > .01$) *r* of .72 of measured VO_2max with distance run in the field test. A sig diff ($p > .01$) was demonstrated by a dependent *t*-test between the 5 prediction methods. Comparison of measured and predicted values indicated that max aerobic power of adolescent girls could be adequately estimated by relating distance run in a 10 min field test to a linear equation of velocity to VO_2 association. It was concluded that the relationship between velocity and VO_2 was sig different for 12-14 yr old girls as compared to adults.

238. BERGEMANN, Brian W. *Effects of practice and pretension on the rate of isometric tension development in muscle.* Ph.D. in Physical Education, 1977, 164 p. (R. Nelson)
In an attempt to determine the cause of dips in the force-time curves during the tension development phase of a max voluntary IM contraction, 21 males performed a set of 20

contractions of the quadriceps femoris muscle group. There was a 1-min rest between each contraction. Each S performed a set of contractions on 4 separate days. On the 1st 2 days, the Ss started each contraction with no pretension while on the last 2 days pretension levels of 0, 5, 10, and 15% of the peak force achieved on day 2 were used. EMG recordings were made of selected agonist and antagonist muscles in order to detect any autogenic inhibition or reciprocal innervation, respectively. The magnitude of the dip was characterized by the momentary reduction in the rate of tension development (dF/dt) after the max dF/dt value was reached and was followed by an increase in the rate. The max dF/dt was a mean of 871 lb/sec. The dip resulted in a drop of 775 lb/sec followed by an increase in dF/dt of 169 lb/sec. The magnitude of the dip was highly related to the max dF/dt (r=0.95), and to pretension (r=0.75). Pretension was strongly related to the max dF/dt (r=0.82). There was no drop in muscle activity for the agonists indicating no autogenic inhibition and no increase in activity for the biceps femoris (short head). There was a burst of activity in the semimembranosis prior to the drip indicating a possible reciprocal innervation.

239. BEST, Susan K. Effects of participation in group games on social adjustment and personal distance of emotionally disturbed delinquent adolescents. M.S. in Recreation and Parks, 1978, 104 p. (H. Lundegren)
This research sought to determine the effects of participation in group games on the social adjustment and personal distance of emotionally disturbed delinquent adolescents. Data were gathered using 20 Ss from the Mt. Meigs Industrial School for incarcerated delinquent males in Al. Findings were: participation in the group games program by the exp group of emotionally disturbed delinquent adolescents had a positive effect on their social adjustment but not such that they showed greater social adjustment than the control group at the end of the exp period; and participation in the group games by the exp group did not have a positive effect on personal distance such that they showed less personal distance than the control group at the end of the exp period. Thus, participation in a group games program by emotionally disturbed delinquent adolescents does not seem to affect their social adjustment or personal distance such that they are diff from a control group of similar Ss.

240. BLACKBURN, Gordon G. Physiological responses of firefighters climbing at selected intensities on a ladder mill. M.S. in Physical Education, 1977, 103 p. (E. Kamon and K. Stoedefalke)

Cardiovascular responses of volunteer firefighters were studied while climbing a ladder with and without firefighting equipment. 20 volunteer firefighters climbed on a motor-driven laddermill, inclined 30° from vertical at speeds calculated to require 50, 75, and 100% of their max aerobic capacity, as determined by a max treadmill stress test. Each climbing bout lasted for 5 mins, or until exhaustion, followed by a 10-min recovery period before advancing to the next higher climbing speed. Each firefighter climbed on 2 separate occasions, once in gym shorts and running shoes (no-gear) and once while wearing firefighters' turnout gear (gear-on). The turnout gear consisted of protective clothing and an air pack which together had a mean wt of 24.2 ± 0.7 kg. The climbing speeds were adjusted accordingly to allow for the added wt of the turnout gear, such that the same % of VO_2 max was required under no-gear and gear-on conditions. No sig diffs were found for the VO_2 cost per unit wt between the gear-on and no-gear conditions. At matching sub-max VO_2's, HRs, systolic and diastolic BP, and rate pressure products were sig elevated in the gear-on condition as compared to the no-gear condition ($p < .05$). At VO_2 max, diastolic BP was sig elevated ($p < .05$) and time to exhaustion was sig decreased ($p < .05$) for the gear-on condition.

241. CARROLL, Robert A. An assessment of student attitudes toward the basic physical education instructional program at The Pennsylvania State University. M.S. in Physical Education, 1977, 63 p. (J. Gallagher)

The 530 Ss in this study were 7th term and above University Park (UP) students who had completed their 3-credit PE graduation requirement. The male and female Ss had participated in PE at UP, only, another Commonwealth Campus (CC) of PSU, only, or both UP and a CC. The attitude survey, developed by the investigator, contained 50 Likert-type statements and 3 optional questions concerned with aspects of the Basic PE Instructional Program at PSU. The validity of the instrument was based on the evaluation of the statements by 7 judges from the College of HPER at PSU. An item analysis revealed that all but 2 statements were valid in measuring attitudes toward PE. A split-halves reliability coefficient of .88 was obtained for the 50-item attitude survey. The mean score of the total group of 530 men and women students was 142.62 of a possible 200 points, indicating favorable attitudes toward the Basic PE Instructional Program. Student attitudes did not differ sig among the 3 campus locations. The attitudes of the men and women did not differ sig, except that men who completed their PE requirements at UP after relocating from a CC had sig higher scores than the women in this group. Responses to the optional questions indicated that the students were satisfied with their PE experiences at PSU.

242. CAURAUGH, James M. A test of the proprioceptive-input hypothesis of anticipatory timing. M.S. in Physical Education, 1977, 111 p. (R. Christina)

The hypothesis that peripheral information via proprioceptive feedback can be used to facilitate the anticipatory timing of a discrete motor response early and later in learning was investigated. The anticipatory timing task involved judging a 1.5 sec interval so that the index finger of the right hand was lifted from the response key simultaneously with the onset of the target light. 3 groups of 16 male college students performed 50 trials of the anticipatory timing task with KR after each trial. The passive and voluntary groups performed a 1.31 rad left-elbow flexion movement on a kinesthesiometer and the minimal-movement group performed a .63 cm finger lift. The left-arm biceps and triceps muscular activity of the passive group was monitored by EMG instrumentation. The passive group had less mean VE than the voluntary- and minimal-movement group during the early and later phases of learning. The voluntary group had less mean VE than the minimal-movement group in the later phase of learning.

243. CHAAPEL, Christine. The effect of a four-week primitive camping experience on inner-city children's perceptions of the natural environment. M.S. in Recreation and Parks, 1977, 98 p. (B. van der Smissen)

Ss were 64 girls aged 9-16 from disadvantaged areas of NYC who attended Trail Blazer Camp for Girls in Aug, 1976. 3 instruments were used: a 25-item Likert-type environmental perceptions inventory; a listing exercise asking for the child's 10 favorite pursuits; and a drawing exercise asking that the child sketch her favorite place. A sig improvement in environmental perceptions scores was found overall; however, when divided according to age and exp subgroupings, younger girls and inexperienced campers improved sig while older girls and exp campers did not. A sig relationship was found between no. of nature-oriented pursuits and favorite place. Interest in outdoor activities was strong, but not so for nature-oriented pursuits. There was a strong favoring of natural scenes as favorite places, and a visible appreciation of the intrinsic qualities of the outdoor setting. It was concluded that inner-city children perceive the out-of-doors in a fairly positive manner, and that an extended camping experience has a positive effect upon their perceptions.

244. DANIELS, Carolyn A. *Sex-role classification and achievement avoidance in female college athletes*. M.S. in Physical Education, 1977, 85 p. (D. Harris)
An investigation of the relationship of sex-role classification (undifferentiated, masculine, feminine, and androgynous), based on the duality concept and fear of success, was carried out in 2 phases. 148 female varsity athletes from PSU were administered the Personality Attributes Questionnaire (PAQ), which determined sex-role classifications, and the Fear-of-Success Scale (FOSS) in Phase I. 18 Ss of each sex-role category were then selected (N=72). Comparison of the 4 sex-role classifications of fear-of-success scores revealed a sig diff ($p<.008$). Subsequent analysis showed that the androgynous mean FOSS score (96.1) was sig lower than that of the masculine (104.9), feminine (108.6), and undifferentiated (110.1) groups. Other pair-wise contrasts were not sig. In Phase II, all Ss were administered a disjunctive RT task in 3 conditions, alone, against a female, and against a male, to compare performance change. Main effects of a 4 x 3 ANOVR were not sig, F (6,191) = .13, $p>.05$. To test sex-role classification, levels of fear of success according to median scores. An ANOVR with unequal cells showed no sig, F (6,191) = .28, $p>.05$. Conclusions reached: A relationship exists between sex-role classification and fear of success among female athletes; androgynous-female athletes are lower in fear of success than masculine-, feminine-, and undifferentiated-female athletes (who do not exhibit diffs in fear of success); there is no relationship between sex-role classification and performance--nor between sex-role classification, levels of fear of success, and performance--in a competitive task by female athletes alone, against a female, and against a male.

245. ENDERS, Barbara A. *Need achievement, locus of control and self-perceptions of highly competitive dancers, gymnasts, choir and orchestra members*. M.S. in Physical Education, 1977, 83 p. (D. Harris)
The strength of need achievement and locus of control exhibited in individuals participating in organizations where

a competitive situation was integral in their selection to that activity was investigated. Related problems were to investigate the self-perceptions of the Ss as they viewed themselves in general as compared to situations which were competitively structured specifically for their activity. The Ss were all students in grades 9-12 involved in varsity gymnastics, orchestra, acappella choir, or were dancers in at least 1 of the school's theatrical productions. All Ss were administered the Gough Adjective Check List twice and the RIE Locus of Control Scale once. A Pearson-Product r was calculated between locus of control and need achievement from the ACL. A 2 x 4 ANOVA technique was utilized to examine diffs between the self in general and the participant-self among the various activity groups tested. The following conclusions were drawn: locus of control and nAch are related, locus of control does not vary by sex or activity, males scored higher on nAch than did females, the perceptions of self in general differ from the projected participant by sex and by activity, and perceived participant-selves differ by sex and by activity.

246. ESTER, Mark A. The effects of exercise-induced stress on peripheral vision and accommodation. M.S. in Physical Education, 1977, 103 p. (D. Landers)
Easterbrook hypothesized that increasing stress reduced the use of peripheral cues so that optimal task performance would occur at moderate levels of stress. The present study determined how cues are eliminated by examining the effects of stress on the autonomic control of accommodation and the 2 visual-system hypothesis. The 2 visual-system hypothesis postulates an ambient system responsible for detection and a focal system that concerns the identification of the same visual stimuli. Male Ss (N=27) were randomly assigned to pedal a bicycle ergometer at 0%, 40%, or 80% of their max work level. Detection was measured by Ss' reaction times to centrally and peripherally presented cues. Measurement of identification necessitated Ss choosing the "correct" cue from among 3 cues that were briefly (.01 sec) presented in periphery. Accommodation was measured pre- and post-exercise with a laser optometer technique. Results showed no between-group diffs on detection for the central or peripheral tasks, while identification responses were more accurate for the moderate-stress group than for the other groups. Easterbrook's theory was therefore supported. The detection and identification measures reacted differently under like-stress levels supporting the predictions of the 2 visual-system

concept. No diffs in accommodation were found for the submax stress levels employed.

247. EXLEY, Jr., Charles M. A comparative analysis of selected alternatives for allocation of resources for recreation services by local government. Ph.D. in Physical Education, 1977, 267 p. (B. van der Smissen)
Alternatives analyzed were equity, demand, and social problem amelioration. Equity was defined as "fairness," not necessarily equal, and included equity of opportunity and equity in terms of spatial distribution of REC areas and facilities. Demand was dealt with as it related to citizen advocacy and consumption. Social problem amelioration focused upon comparative priority of need as reflected in social conditions, social/priority planning, and social indicators of the quality of life. The comparative analysis utilized 3 elements: the basic assumption and REC premise; the allocation process as regards the nature of the data and the procedure for application; and, the function of the alternative as related to the decision making of governmental officials and REC and park professionals in delivery of REC and park services. The alternatives were illustrated by case application of area and facility data from the city of Atlanta, GA. Adequate data on program services by neighborhood were not available. The 24 Neighborhood Planning Units of Atlanta were rank ordered for various approaches to alternatives Equity and Social Problem Amelioration. Data were not available for demand application.

248. FINK, Jeanine. Estimation of body composition of physically active young women. M.S. in Physical Education, 1977, 64 p. (C. Morehouse)
The most accurate regression equation for estimation of body composition in a sample of active women (ages 18 to 34 yrs), who ran an average of 31.6 miles over 6 days/wk (N=24) was determined. 7 previously published estimation equations were selected for validation with a criterion, body density (Db) obtained from each S by underwater weighing. A series of anthropometric measures were also obtained from each S and included ht, wt, 1 bone diameter, 5 circumferences, and 13 skinfolds. % body fat and lean body wt (LBW) were calculated from Db by the formula of Brozek, et al. Mean Db was 1.0504 ± 0.0116 g/ml, % body fat, 20.96 ± 4.81%, and LBW, 43.04 ± 4.81 kg. A higher r was found between actual and estimated LBW (r=0.89 to 0.92) than between actual and estimated Db (r=0.42 to 0.72). All of the variables estimated by the

7 equations were sig diff from the criterion. However, the equation of Durnin and Womersley which estimated Db from the sum of 4 skinfolds was concluded to be the most accurate ($\bar{r}$=0.72). An R model was used to develop estimations of body density from the anthropometric variables. The best regression equation included a combination of 2 skinfolds, triceps and iliac crest, and 1 bone diameter, elbow (R=0.79). It was concluded that regression equations for estimation of body composition are population specific and cross-validation on independent samples is necessary before general application can be made with accuracy and validity.

249. FISHER, Jonathan N. The effects of participation in a creative dramatics program on the self-concept of mentally retarded children in a six-week day camp. M.S. in Recreation and Parks, 1977, 100 p. (H. Lundegren)

27 campers (16 males and 11 females) aged 7-15, with varying degrees of mental retardation, attending a 6-wk day camp participated in this study. Ss were divided into 3 groups: creative dramatics (CD), 11; storytelling (ST), 9; and control (C), 7. CD met for 2 45-min sessions per wk, ST met for 2 25-min sessions, and C had the regular camp program. A 30 picture self-concept test representing concepts contained in standard paper and pencil tests was developed by the investigator and administered individually on a pre-, post-program basis, with the post-test being a test-retest to assess reliability. Kruskal-Wallis 1-way ANOVA by ranks and Wilcoxon signed ranks test when applied to the data showed no diffs either between groups or within groups in self-concept. The reliability of the test was .91.

250. GAMBLE, Helen F. The development of social integration of exceptional children through a playground program based on the concept of normalization. M.S. in Recreation, 1977, 120 p. (B. van der Smissen)

Adaptations for exceptional children (N=6) were in conduct rather than selection of activities, specifically as affected the social-emotional climate and as encouraged specific teaching techniques. The reward system fostered participation and cooperation, deemphasizing competition. Children were divided into age groups: 3-6 yrs (N=23), 7-9 yrs (N=37), 10-12 yrs (N=23). Social integration was defined as exceptional children's acceptance as friends and leaders and their development in these behavioral areas: degree of participation, ability to cooperate, tolerance to frustration, reaction to challenge, interaction patterns, and leadership initiative.

Weekly the leaders observed and rated the behavior of the exceptional children and progress was charted. Sociometric choices on friendship and leadership were made on the 1st day on the playground, and during the 4th and 6th wks. Choices were ranked and Kruskal-Wallis 1-way ANOVA applied. Hypothesis supported that in an integrated playground setting the social integration of exceptional children changed over the summer; 5 of 6 children were increasingly more accepted as the summer continued, but the younger children were not as well accepted as the older children; 2 of the exceptional children emerged as the most popular on the playground.

251. GARMAN, Lorraine K. A cinematographical and mechanical analysis of the push pass in field hockey. M.S. in Physical Education, 1977, 38 p. (R. Nelson)

The fundamental body positions and mechanical factors involved in executing a push pass in field hockey were examined through cinematography. 5 skilled club players and 5 highly skilled national players were analyzed during execution of a stationary and a moving push pass. The findings were compared to the descriptions of the push pass found in field hockey literature. Films were obtained using a 16 mm variable speed Locam camera and analyzed on a Vanguard Motion Analyzer. The following factors were analyzed: center of gravity, angles of the stick and forearm, distances and times, hand and foot positioning, and ball velocity. No diffs were found to be statistically sig. Highly skilled players showed less variation than skilled players during execution of the push pass, and both groups showed variation between the moving and stationary passes. Contradictions were found between the descriptions of the techniques and mechanics required for execution of the push pass as found in the literature and the actual mechanics used in performing the push pass during this study. These contradictions illustrate the need for updating the field hockey literature based on mechanical analysis of the basic skills in field hockey.

252. GEISLER, Patricia H. Development of a Self-Awareness Training program. M.S. in Recreation and Parks, 1977, 177 p. (B. van der Smissen)

The program was based on the learning process: identify, evaluate, internalize, reinforce. Uniqueness of the individual, value clarification, interpersonal relations, and achievement motivation formed the conceptual base. Appropriate activities provided the stimuli for the study of the effect on the discrepancy between real and ideal self. The program was operationalized by conducting 6 2-hr sessions, 1 evening/

wk. 11 PSU students participated in the Self-Awareness Training (SAT) program. The program was evaluated with respect to understanding of the concepts, group interaction, and flow, utilizing a facilitator's log, check lists, and activities evaluations which were developed for this study. Overall assessment used open-end questionnaires, interviews, and the Gough Adjective Check List (ACL). There was progressive improvement in understanding the concepts and strong group cohesiveness developed. The activities contributed to the program in a positive manner, with the exception of those associated with achievement motivation. The participants felt that they had improved in expressing their individuality, problem solving, facilitating, being sensitive, and communicating. The ACL scales of achievement, adjustment, and change were influenced the most by SAT while self-confidence, affiliation, succorance, and adjectives checked were affected the least.

253. GILLIS, Jacqueline H. Effects of achieving tendency and gender on causal attributions following motor performance. M.S. in Physical Education, 1977, 121 p. (D. Harris)

This investigation was an attempt to apply attribution theory concepts to the physical activity setting. 930 college students (436 females, 494 males) completed the Rotter I-E Scale, the Mehrabian Achieving Tendency Scale, and a measure of physical activity orientation. From this pool, 120 Ss were selected for the exp such that they were moderate in locus of control, extreme in achieving tendency, and at least moderate in physical activity orientation. Ss performed 1 30-sec trial on either a spring-assisted stabilometer (success condition) or a non-spring-assisted stabilometer (failure condition), and then rated the importance of the factors of ability, effort, task difficulty, and luck as influences on performance. Ratings of each factor were analyzed by a 2 x 2 x 2 ANOVA, considering the independent variables of achieving tendency (low or high), outcome (success or failure), and gender (female or male), with 15 Ss in each cell. No sig effects were found for achieving tendency on any of the 4 factors. It was found that Ss who succeeded felt that effort was more important than those who failed ($p < .001$), and females felt luck was more important than males ($p < .02$). Results were discussed in terms of both methodological and theoretical considerations.

254. Gray, Howard R. *Enjoyment dimensions of favorite leisure activities of middle- and old-aged adults based on the flow model of enjoyment*. Ph.D. in Physical Education, 1977, 250 p. (B. van der Smissen) Middle-aged (40-50 yrs old, N=47) and old-aged (65+ yrs old, N=48) persons in VA were interviewed. A time-compressed methodology was used to measure enjoyment for actual age and target age, i.e., prospecting to when they will be 65+ yrs old, and recollecting when 40-50 yrs old, activity participation. Enjoyment dimensions measured by Csikszentmihalyi's Flow Instrument (modified) were extent of involvement in activity, reasons for enjoying the activity, structure of the activity, elements of flow, challenges of perceived stimulation, skills of perceived use in the activity, and activity modifications. Background Information Questionnaire, Rokeach Value Survey Scale, and Rotter I-E Locus of Control Scale were applied. Responses were analyzed by age perspective and type of activity (social, kinesthetic, creative, and attending). Sig of diff and relationships were tested by *t*-tests, ANOVA, X^2, and *r*. Factor analysis and discriminant analysis were used to identify clusters and items characteristic of specific enjoyment dimensions. It was found that the nature of enjoyment dimensions for both age groups conform to the theory of the flow model of enjoyment for favorite leisure activities, i.e., participation is primarily for intrinsic reasons, focuses on a merging of action and awareness, and reflects a matching of perceived challenges in the activity with perceived use of personal skills.

255. HANNON, Marian T. *The effects of participation in physical fitness programs on executive job satisfaction.* M.S. in Recreation and Parks, 1977, 111 p. (P. Farrell) The effects of participation in physical fitness programs on job satisfaction were investigated. Questionnaire data were collected from 46 employees of a large company which conducted an employee physical fitness program. The Ss in this study were 46 male executive employees of the company, 23 participants and 23 non-participants of the fitness program. The majority (43%) of Ss had been with the company for 6-10 years, approximately ½ (52%) had received a Master's degree, and the average age of the study population was 38.4 yrs. The majority of Ss, both participant and non-participant, viewed their jobs favorably. It seems participation in the physical fitness program effected no change in attitudes toward the Ss jobs, as both groups held positive attitudes. No consistent relationships were found between the background

variables (yrs with the company, level of education, and age) and participation in the physical fitness program.

256. HANSEN, Michael P. An epidemiological analysis of drowning deaths in the Commonwealth of Pennsylvania. M.S. in Physical Education, 1977, 99 p. (K. Clarke)
The objectives of this study were to prepare a circumstantial epidemiological analysis of drowning deaths in the Commonwealth of PA over a 3-yr period (1972-74), to examine patterns relevant to preventive educational programming, and to determine the adequacy of death certificates for such purposes. Ss for the study were defined as those persons who accidentally drowned during the 3-yr study period within the boundaries of PA (as determined by their death certificates). Data were coded from the death certificates of these drownings and keypunched for computer analysis. A total of 700 victims were identified as having accidentally drowned during the study period. Slipping and falling into the water was the most frequently reported accident type, followed (in decreasing frequency) by: swimming accidents, boating accidents, ice-related accidents, and bathing accidents. Rivers were the most frequent sites of drownings; creeks were 2nd; and lakes were 3rd. Teen-agers experienced the highest average annual drowning death rate of any of the age groupings. Children experienced the 2nd highest rate, the aging the 3rd highest, and adults the lowest rate. Patterns of drowning deaths for each of these age groupings were discussed in detail. Death certificates were found to be a poor data source for epidemiological analyses.

257. HAYES, Dar[illegible] L. Risk-taking preferences of children at an adv[illegible]e playground program. M.S. in Recreation and Parks, 1977, 89 p. (H. Lundegren)
A Risk Taking Preference Rank Order Scale (RTPROS) was developed by the investigator. 36 children were asked to rank 12 adventure and traditional playground activities in terms of what they perceived to be the most risky activity to the least risky activity in which to engage. Thus, the RTPROS consisted of 4 high-risk activities, 4 medium-risk activities, and 4 low-risk activities. Children participating in 2 6-wk adventure playground programs (N=50) and children at 2 traditional playgrounds (N=59) were pre-tested using the RTPROS. Each child was asked to rank the 12 pictures from the activity he preferred to do the most to the one preferred least. The child was then categorized as a high, medium, or low risker. The children were post-tested 6 wks later to determine if they had moved from a lower to

higher risk category. Reliability of the instrument was determined by re-testing the children 2 days after the post-test. Results indicated that the adventure playground group did not sig change as over half of the children were high riskers in the beginning. The adventure playground group sig chose higher risk activities than the traditional playground group. The boys sig chose higher risk activities than the girls.

258. HEFLINGER, Wende A. An evaluation of the Playgrounds for Free program in Pennsylvania. M.S. in Recreation and Parks, 1978, 162 p. (G. Godbey)
6 case studies were performed to evaluate: location and initial development of the playgrounds; condition of the sites; attendance at the playgrounds; and opinion of the community members, local coordinators, and regional representatives concerning: overall satisfaction, overall safety, equipment safety, maintenance, and attractiveness of the playground sites. Interview schedules and on-site safety and maintenance checklist inspections were performed in each location. Photographic/head counts were taken by community volunteers for a 1-wk period beginning July 17-33, 1977, to ascertain data concerning attendance at the playgrounds. Mailed questionnaires were distributed to local coordinators, and DCA regional representatives. Descriptive statistics, listings, and ANOVA were used to present and analyze the data. The condition of each site varied although the apparatus and equipment were generally found to be durable and sturdy. Attendance was reported to range from 3 to 25 persons daily, with the age range generally from 4 to 12 yrs of age. The opinions of the community members, local coordinators, and regional representatives concerning: overall satisfaction; attractiveness; safety; and maintenance of the sites, varied in each case.

259. HERRITT, Elizabeth L. Social class and the women's national tennis championships in the United States, 1887-1905. M.S. in Physical Education, 1977, 269 p. (R. Smith)
The concept of staging a national tennis tournament for women was set into motion during 1887 by the female tennis population of Philadelphia. The organizing committee was essentially elite and upper class individuals belonging to the Belmont Cricket Club, the Philadelphia Cricket Club, and the Chestnut Hill Lawn Tennis Club. For the 1st 3 yrs, Philadelphia women dominated the national championship. As the competitors began to journey from all parts of the country

to participate, players from NY and NJ soon reigned supreme. At the end of the 19th century, the western players were successfully challenging for the Wissahickon Inn Cup, symbolic of women's tennis supremacy. Most of the individuals who competed in the national women's tennis tournament belonged to the 2 highest social classes, elite and upper. The results, concerned with the performance of the Philadelphia tennis players, showed that the upper class entries, most of whom were members of the Belmont Cricket Club, were more successful than those of the elite or combination elite and upper class clubs. This tends to indicate that as social class becomes lower competitiveness and winning becomes more important.

260. HERSHEY, Charles P. The effects of participation in baseball programs conducted at different levels of competition on the self-concepts of elementary-aged males. M.S. in Recreation and Parks, 1977, 70 p. (H. Lundegren)

2 groups of ELE-aged males participated in either a little league program (N=36) or a REC league baseball program (N=25) operated concurrently in the same town over a 2-month period. A control group (N=40) who did not participate in either program was also used. All Ns were administered the Piers-Harris Self-Concept Test. Those in the programs were tested prior to their respective seasons; and immediately following their season's end. The control group was tested before school ended and when school started again; a period spanning the same baseball season. Results of the application of the Kruskal-Wallis ANOVA by ranks and Wilcoxon signed-ranks tests indicated that participants in a less-structured sports program do not differ in self-concept from participants in a highly-structured competitive program. Participants in a highly-structured sports program have more positive self-concepts than non-participants who are 11 to 12 yrs old. The self-concept of the older participants in the highly competitive program sig increases after participation.

261. HORSTMAN, Harry F. Discretionary time participation patterns in mentally retarded women in the institution and in the community. M.Ed. in Recreation and Parks, 1977, 120 p. (H. Lundegren)

An investigation was made of the social interaction and leisure behavior patterns of 49 MR women aged 21 to 65 yrs old with IQs from 42 to 79. 27 Ss were institutional residents and 22 Ss were in alternative placements in the community. Data collected by direct interview was assigned under social interaction headings of individual or group participation, and under leisure behavior headings of direct or vicarious involvement. Each category was examined using the independent variables of CA, IQ and length of institutional placement. A descriptive analysis of the data was made. Findings indicated that individual and group participation were nearly equal in the institution, while individual participation predominated in the community. All but the youngest institutional group showed vicarious involvement as the dominant response. It was concluded that the discretionary time participation patterns in the institution and in the community were essentially dissimilar, and that the selected independent variables were not consistent factors in influencing social interaction or leisure behavior, as defined.

262. HUNTER, Angeline L. P. Legal aspects of health and safety for operating youth camps. M.S. in Recreation and Parks, 1977, 345 p. (B. van der Smissen)
A comparative analysis was made of the laws and regulations directly applicable to camp, as provided by all 50 states (1976) and from the 1974 Cordura Corp. study; HEW's 1975 suggested state youth camp safety statute and regulations; and the 1976 ACA standards. A matrix was organized utilizing Cordura's 9 categories: camp personnel, program safety, site and facilities, personal health and medical, sanitation--food, transportation, out-of-camp trips, day camping and travel camps. A descriptive narrative, accompanying the analysis charts, identified similarities and differences in each operational area. While the ACA and HEW material was similar in content, there was great variation in the state documents. Laws and regulations were found to be most [illegible] in the area of sanitation--food, and a substantial number of states also had laws and regulations concerned with site and facilities had personal health and medical. Slightly less than ½ of the states had program safety requirements for certain types of emergencies. Few states had legislation for personnel or specialized camping. The analysis was part of a larger study which incorporated a camp director's checklist of legal aspects, working with legislation and principles of liability/negligence.

263. INGENTHRON, J. Gary. Recreation activity interests of mentally retarded young adults. M.Ed. in Recreation and Parks, 1977, 145 p. (H. Lundegren)
The REC activity interests (institutional and community) of

30 MR individuals, aged 13-25 yrs with IQs 40-80 measured on the PPVT was investigated. Data were collected twice from each S individually using a developed 56 card Pictorial REC Activity Sort. The 1st test was directed at identifying those activities preferred by the Ss during their institutionalization with the 2nd test designed to reveal those activities perceived by the Ss to be preferred once reintegrated into a community living environment. A jury was utilized to rank the same stimuli on the basis of activities available in the community for MR individuals. 2 tests were employed to determine preference as well as for the juries activity availability responses. The MR Ss community preferred responses and the jury responses were then compared using X^2. Results indicated: certain activities were preferred by the MR Ss; sig relationships were shown between the MR Ss community preferred activities and those selected by the jury; activities preferred during institutionalization were related to those projected for the community; and, activity preference diffs existed between the MR male and female Ss.

264. JACOBS, Jane B. An investigation of self-concept, ideal self-concept, body image and movement concept of college females participating in a ten-week jogging program. M.Ed. in Physical Education, 1977, 79 p. (D. Harris)

Changes in self-concept, ideal self-concept, body image and movement concept of college females participating in a 10-wk jogging program were investigated. 19 females comprised the exp group, the control group consisted of 19 females in a 10-wk golf instructional unit. 5 sets of data were collected on the 2 groups through the use of an activity questionnaire, anthropometric measurement, wt, and % body fat measurements, and 3 Q-sorts assessing self-, body, and movement concepts. The Cooper 12-min field test was administered to the exp group only. The independent t-test and dependent t-test revealed no sig diff in self- and ideal self-concept discrepancy, body image, and movement concept between or within the jogging and golf groups from the beginning to termination of the study. The Spearman r indicated no sig relationship between the self-awareness variables and cardiorespiratory fitness test results. A sig negative r between self- and ideal self-concept discrepancy and wt loss, anthropometric, and % body fat scores was found for the exp group at the beginning of the investigation but not at the end. A sig negative r was found between movement concept and anthropometric measures at the initiation and termination of the investigation.

265. JENNINGS, Susan E. The relationship between androgyny and self-concept among female athletes and nonathletes. M.S. in Physical Education, 1977, 83 p. (D. Harris)
The relationship between sex-role identity and athletic participation among female college students was investigated. Additionally, level of psychological adjustment, measured by the disparity between an individual's social-, ideal- and sport selves, was compared among female athletes and nonvarsity females who were physically active or inactive. There were 30 Ss in each group. The Ss were subsequently reclassified according to sex-role, and the adjustment between androgynous and undifferentiated Ss was compared. The instruments utilized were the BSRI to measure sex-role identity, and 9 ACL scales to assess self-concept. A X^2 test revealed no sig relationship between varsity athletic status and sex-role. Post hoc analyses did indicate a sig relationship between sex-role and participation in physical activity. 9 3 x 3 (sex-role x selves) ANOVAs were run to test each hypothesis related to adjustment. No diffs in adjustment were found between athletes and the active group; but diffs on 8 scales were found between the athletes and the inactive group. The active and inactive groups differed on 6 scales. When the Ss were reclassified according to sex-role, the androgynous females were better adjusted than the undifferentiated on 5 scales both when the ideal- and sport-selves and the ideal- and social-selves were compared.

266. KACEVICH, Joseph B. The relationship of response and reaction times to collegiate football playing ability. M.S. in Physical Education, 1977, 74 p. (C. Morehouse)
Simple RTs, MTs, and TRTs were obtained in the laboratory and on the football field for a group of 82 varsity football players. The basic objectives of the study were to determine relationships between TRT and general football playing ability and TRT and individuals playing diff positions. Finally, simple RT as measured in a laboratory situation was compared with simple time as measured in a field situation. Lab and field RT was recorded electronically as the time between the onset of the stimulus (neon light) and removal of S's hand from a start-switch. MT was recorded electronically as the time between completion of RT and necessary to run 10 yds. TRT was taken as the sum of field RT and MT for 1 trial. Each S was assigned to 1 of 8 groups, depending upon the individual's general football playing ability, and to 1 of 5

position categories. Statistically sig rs were calculated between TRT and team ranking and TRT and individuals playing different positions. A low positive relationship between simple lab RT and simple field RT was calculated.

267. KAISER, P. William. The effects of an outdoor interpretive program on the self-concepts of educable mentally retarded (EMR) boys. M.S. in Recreation and Parks, 1977, 82 p. (H. Lundegren)
12 EMR boys, ages 13-18 yrs, participated in a 7-wk outdoor interpretive exp conducted by the investigator. The Piers-Harris Children's Self-Concept Scale (CSCS) was administered to the interpretive group and a control group of 12 boys. The CSCS was composed of 80 simple declarative statements, half worded to indicate a positive self-concept and half a negative self-concept. Scoring of the scale is in the direction of a high self-concept. The interpretive group participated in activities which centered around: identification of winter trees, understanding the environment, animal tracking, animal habitats, food sources for animals, animals and their lives around the streams and rivers, slide presentations on animals and their environment, and terrariums. The time spent with the interpretive group and control group was 1 hr/day. The investigator's role with the control group was as an aide to the teachers in conducting academic and REC activities. The CSCS was administered to both groups at the conclusion of the 7-wk period. A post-test was administered to the interpretive group 1 mo after the conclusion of the program. The Mann-Whitney U test was used to compare the results between the groups on the pre-test and post-test self-concept scores. Within-group comparisons were made using the Wilcoxon signed-ranks test. A sig diff ($p < .05$) was found between the pre-test and post-test scores for the interpretive group, indicating a more positive self-concept. There was a sig change in a negative direction between the post-test and follow-up scores for the interpretive group. The self-concept of the interpretive group was not more positive than that of the control group at the end of the study.

268. KEFFER, Philip L. The effects of a running program on the self-concept and cardiovascular fitness of predelinquent institutionalized adolescent boys. M.S. in Recreation and Parks, 1977, 173 p. (H. Lundegren)
24 boys were divided into 3 equivalent PF groups, based on the Cooper 12 min Run Test (CTMRT) pre-test, for intergroup competition. There was also individual competition. Various

motivational techniques were employed: team names, team co-captains, peer recognition, progress charts, wkly improvement awards, etc. The boys ran 5 times a wk for a 5-wk period. Distances run on various days were 440 yds, 880 yds, 1 mi, and 3.4 mi. The TSCS was the measure of self-concept, and the CTMRT was the measure of cardiovascular fitness. Data were analyzed for the study group, the high fitness group, and the low fitness group. The groups showed the following positive changes on TSCS scales: study group--behavior and social self ($p > .05$); high fitness group--total positive ($p > .01$); behavior ($p > .05$); and low fitness group--variability ($p > .05$). All 3 groups showed positive change in cardiovascular fitness (CTMRT) ($p > .01$). Results showed improvement in self-concept and cardiovascular fitness after participation in the running program. The high fitness group showed more positive self-concepts, initially, than the low fitness group. They also had greater gains in the various areas of self-perception than the low fitness group, as a result of the program.

269. KENEPP, Diana L. Analysis of syphilis literature in The Journal of the American Medical Association, 1914-1943. M.S. in Physical Education, 1977, 307 p. (J. Lucas)

An analysis of the "clustering" and "shifts in emphasis" of the articles was conducted by a review of the literature, a frequency analysis of the total number of articles per yr, and the no. of articles focusing on each of 4 arbitrarily chosen categories: coordinated social, clinical, and epidemiological control measures; clinical signs and symptoms; diagnostic tests and procedures; and treatment. It was hypothesized that increases in the volume of literature on syphilis coincided with cyclic periods of increased incidence of this disease, occurred during periods of war and following sig medical advances, and the focus of the medical literature on syphilis changed as a result of war and medical discoveries. It was found that medical discoveries such as the identification of the causative organism of syphilis, diagnostic tests, and the introduction of arsenicals into syphilo-therapy influenced the focus of literature content and the quantity of articles published during the 1st decade of study. As new diagnostic tests and new treatment measures were introduced, the no. of articles related to diagnosis increased. Trends in the focus of the literature were also observed as a result of mobilization and entry into WWI and WWII. 1 individual, Dr. Thomas Parran, Jr., affected both the nature and the volume of syphilis literature published during the 3rd decade of study. The increased incidence of syphilis was found to influence literature content, but it did not appear to affect the no. of articles.

270. KIESEL, Joseph C. The relationship between physical fitness knowledge and physical fitness level of young adult males and senior high boys. Ed.D. in Physical Education, 1978, 147 p. (J. Hodgson and E. Gross)
This study investigated the relationship between physical fitness knowledge (PFK) and physical fitness level (PFL) of 257 Ss, ages 17-30, as well as investigating this relationship when Ss were classified according to: age; educational level; grade in HE and biology; grade in PE; student type; occupation; occupational activity; frequency, duration, and intensity of exercise; % fat; smoking habits; and running exp. Scores from an 81-question test (specifically related to cardiovascular endurance) were used to determine PFK. Reliability (.88) and validity (both content and construct) of this test were evaluated. PFL was determined by Ss' performances on a 12-min run-walk test. All Ss received a medical examination, including a resting EKG, prior to any run test. The 12-min run-walk was evaluated as a reliable ($\underline{r}$=.95, test/retest) and valid (.83) field performance test of max VO_2 by conducting a treadmill test using 33 of the Ss. Analyses of these Ss' performances on the treadmill test and the 12-min run-walk supported the use of the 12-min run-walk as a measure of PFL. An insig positive linear relationship ($\underline{r}$=.06) was found between Ss' PFK and PFL. 2 curvilinear $\underline{r}$'s (quadratic $\underline{r}$=.06); cubic $\underline{r}$=.12) between PFK and PFL were found to be non-sig. No sig $\underline{r}$'s were found between knowledge and level when the Ss were classified into smaller samples corresponding to the previously listed 13 categories. There were sig $\underline{r}$'s between PFL and a S's age, educational level, grades in HE and biology, grades in PE, student type, occupation, occupational activity, exercise frequency, exercise intensity, % fat, smoking habits, and running exp. There was also a high $\underline{r}$ between PFL and the combination of these 12 factors (R=.77).

271. KING, Michael J. An epidemiologic approach to community health education. M.S. in Physical Education, 1977, 75 p. (R. St. Pierre)
In view of the research tradition of epidemiology and the evolving trend toward utilizing the tenets, models, and theories of epidemiology for problem solving in a variety of social settings, an epidemiologic approach to community HE has been developed in this thesis. As community HE sig

impacts the HE of a population, the basic population science of epidemiology can be appropriately applied to the assessment, planning, analysis, and evaluation of community HE measures. The epidemiologic approach to community HE is manifest in 2 areas: the evaluative methods of epidemiologic science are readily applicable to assessing community HE settings; then, an epidemiologic model of host-environment-agent-transmittal made interaction provides a basis for a theoretical presentation of the community HE process.

272. KINNEAR, Jean L. Suitability of Stone Valley recreation area impoundment to support secondary contact water recreation as determined by federal and Pennsylvania recreational water quality criteria. M.S. in Recreation and Parks, 1977, 219 p. (B. van der Smissen)
The water quality and REC use of the 72 acre impoundment, principal tributaries, and related land resources of the Stone Valley REC Area, Huntington County, PA from Jun through Oct 1971 is described. Water quality was compared to Federal Government criteria recommended for secondary contact REC, aesthetics, fish, and wildlife and to standards set by the Commonwealth of PA for the Shaver Creek Basin. Procedures for examining the water quality parameters, except rubbish, followed those given in Standard Methods for the Examination of Water and Wastewater, 12th and 13th editions. Procedures for studying rubbish and REC use were developed for the study. The impoundment and its tributaries met applicable criteria for turbidity, partially met those for pH and dissolved O_2, did not meet those for rubbish, and were incomparable to those for total alkalinity, apparent color, and temp. No criteria had been given for total coliform bacteria, aquatic macrophytes, and specific conductance. REC use was measured by counts of noncontact water REC (visitors and vehicles, and organized groups) and secondary contact water REC (boats and boaters, and shore anglers). REC use was both temporally and spatially concentrated. Heavy use periods occurred during the afternoon hours and locations with greatest use near entry points.

273. KISTLER, Bruce W. A proposed technique to determine the safety zone requirements of high speed recreational boating activities. M.S. in Recreation and Parks, 1977, 127 p. (M. Christiansen)
A technique to measure the safety zone of REC speedboats and water ski tow boats was proposed. Boating activity on a no. of lakes was recorded by sequential near-vertical aerial photography using a handheld 35mm camera and an improvised

sequence timer. Slide-mounted images were projected onto base maps of the lakes and boat positions traced for distance measurements. Closest objects observed in 45° sectors around each fast-moving boat were recorded on a composite diagram. From this diagram, a safety zone was outlined which placed 90% of all closest objects outside the zone. The zone had an area of 2.39 acres and was long and narrow in shape with greater distances to the port (left) side. Similar zones were generated when other fast-moving boats only and stationary boats and shore points only were analyzed as the objects avoided.

274. KNIGHT, James A. An investigation of heart rate, systolic blood pressure, and rate-pressure product responses to progressive treadmill exercise. M.S. in Physical Education, 1977, 78 p. (J. Hodgson)
Stress test data was reviewed to determine the mean HR, SBP, and RPP (HR x SBP x 10^{-3}) responses to a max treadmill protocol in 110 Ss aged 30-59 yrs. The continuous test began at a speed of either 3 or 3.5 mph and 5% grade. Grade increased by 2.5% every 2 min following a 5 min warm-up. Speed was increased 0.5 mph every 2 min after reaching 20% grade. Mean HR, SBP, and RPP responses were calculated by age group (30-39, 40-49, and 50-59 yr) and compared by ANCOVA to find effects of aging. The latter 2 groups were further subdivided according to fitness, body fatness, resting SBP, and body size. Those Ss above and below 1 SD of their age group mean for these variables were compared by ANCOVA within their age group to determine the effects on exercise responses. Mean SBP and RPP values during max exercise were 210.4, 200.9, and 211.0 mm Hg and 38.9, 36.1, and 36.2 for the 30-39, 40-49, and 50-59 yr old groups, respectively. ANCOVA revealed no sig effects of aging on the 3 exercise variables, but did show sig diffs in SBP and RPP responses due to fitness, body fatness, resting SBP, and body size.

275. KWIECIEN, George H. An analysis of interlocal cooperative Recreation and Parks arrangements in the Commonwealth of Pennsylvania. M.S. in Recreation and Parks, 1977, 169 p. (G. Godbey)
The general administrative structures of public REC and/or parks agencies within the Commonwealth of PA having formal interlocal cooperative arrangements for the provision of public leisure services were analyzed. The major problem, the extent interlocal cooperation existed throughout the state, and the opinions of agency directors concerning cooperative arrangements were all determined through the use of a

mailed questionnaire. Participating agencies (N=135) were required to have at least 1 full-time director. Data were collected over a 2-mo period. Data analysis mainly involved the use of descriptive statistics. A X^2 analysis determined the relationships between an agency's background data and its administrative arrangement. Study results established a general administrative structure profile of formal interlocal agencies and indicated over half of the participants had either informal or formal arrangements. Administrator's opinions revealed that while cooperation improved the availability of public leisure services, it was also plagued by bureaucratic tie-ups, communication difficulties, and "provincial" politics. The formal arrangement was generally preferred over the informal type. Conclusions were that interlocal cooperation is not the answer for every community's leisure service needs and that successful cooperation is not the answer for every community's leisure service needs and that successful cooperation depends upon a multitude of measurable and non-measurable factors.

276. LAMBRIGHT, Michael L. Social competence of Mennonite and non-Mennonite high school varsity soccer players. M.S. in Physical Education, 1977, 80 p. (D. Harris)
Male varsity soccer players, ages 16-18, in grades 11 and 12 at 3 Mennonite Parochial SHSs (N=48) and 3 public SHSs (N=54) completed a background questionnaire and the TSBI prior to the 1976 soccer season and again 10 wks later. Control groups (Mennonite N=39, Public N=39) were randomly selected from lists of male nonparticipants at the same 6 SHSs. There were no appreciable diffs in the soccer programs at these SHSs and the mean soccer exp was similar for all soccer Ss. 3 of 4 Ss in this study reported living in areas of less than 15,000 population and farming background was over-represented among the Mennonite Ss. There were no sig diffs found in TSBI scores measuring social competence between the 4 groups, either preseason or postseason, using an ANOVA. The ANOVR revealed that TSBI scores of all 4 groups improved sig over the 10 wks; however, no diff was found when comparing the improvement of a single group with all other groups. It was concluded that social competence and its change over a period of 1 soccer season is not affected by one's religious background or by participation in soccer.

277. LANDA, Jean. The relation of selected biomechanical factors to the acquisition of skill in a novel throwing task. Ph.D. in Physical Education, 1977, 150 p. (P. Cavanagh)

25 male Ss threw a ball at a graded target 40 times. The dominant arm of each S was fastened into a hinged metal frame (which limited throwing motion to forearm flexion and extension); a cup was attached to the end of the frame. Biomechanical data were collected on-line to an A to D converter by a PDP-11/34 computer program. Muscle activity in the biceps brachii, brachialis, brachioradialis, and triceps brachii was monitored by EMG. A computer program was also used to calculate max flexion angle, angle and velocity at release, and peak positive and peak negative acceleration. Elbow displacement data obtained from a potentiometer were used to calculate velocity. Accelerations were calculated from a piezoelectric accelerometer. A pulse generated when the ball released a contact switch indicated the end of the throw. Ss acquired the task within the 1st 10 trials; group analysis was done on these throws. Only mechanical factors monitored showed changes as skill was acquired. Elbow angle and elbow velocity at release were the best predictors of score. The multiple r coefficient accounted for 99% of the variance in score. With practice, the max flexion angle and release angle decreased; while release velocity and peak positive and peak negative acceleration increased. A regression equation was built predicting the horizontal ball angle from the horizontal cup velocity at release for a perfect score. Ball angles and cup velocities at release were determined by each S. As ball angle decreased, velocity increased. Ss were divided into 3 groups according to the rate at which the skill was acquired. Biomechanical factors and factors included in individual regression equations to predict score were the same for all 3 groups. No diff was found in the strategies used by members of each group to obtain perfect scores.

278. LEAHY, Thaddeus J. The development of the Recreation and Parks Program at The Pennsylvania State University from 1946-1976. M.Ed. in Recreation and Parks, 1978, 128 p. (P. Farrell)

Each of the 3 main chapters of this study presents 1 decade of program development, with the 4th chapter concluding the study. Chapter I deals with the efforts of Fred Coombs to create and develop the REC Education Program within the School of PE and Athletics. Bases for curriculum formation, evaluations, and the growth of extension services are major areas affecting development. Certification and accreditation of the Program are other issues which Coombs confronts during the 1st decade. The extent of administrative support for the program within the College of HPER is the main focus of

Chapter II. Coombs submits a report to the College administration articulating the needs of the program. Administrative resistance to increased support continues until the end of the 2nd decade. In contrast to the 2nd decade, the 3rd decade of the program's development presented in Chapter III is characterized by rapid expansion as administrative support becomes assured. Plans for an organized pattern of growth and problems arising from such rapid expansion are reviewed. By the end of the 3rd decade, the Program's reputation has been established as an academic leader within the field.

279. LESSER, Heidi. The effects of travel on the self-concept in adjustment ability of motorically handicapped individuals. M.S. in Recreation and Parks, 1977, 108 p. (H. Lundegren)

The effects of travel on self-concept and adjustment ability of motorically handicapped individuals were investigated. The study group consisted of 4 disabled and 3 non-disabled individuals. The 4 disabled Ss consisted of 1 female and 3 male motorically handicapped individuals ranging in age from 33 to 57 whose disabilities included spina biffida, multiple sclerosis, and muscular dystrophy. 2 Ss had former travel experience and 2 had no travel experience. The group toured San Francisco for 1 wk emphasizing group socialization and cohesiveness. A case study approach was utilized to determine which events changed the self-concept and adjustment ability of the Ss. Pre- and post-test comparisons in self-concept utilizing the Tn Self-Concept Scale, and adjustment ability, utilizing the Handicap Problems Inventory, were made to determine if change occurred in these areas, and a daily log, matrix and sociogram were utilized to establish levels of socialization and cohesiveness within the group. The results indicated that the Ss in the group did not show an overall increase in self-concept, but did show an increase in integration from one area of self-perception to another; they tended to improve in adjustment ability during the trip; and group and individual social interaction patterns increased.

280. McNAIGHT, Anne B. A survey of the status of selected health instruction practices in the public high schools of Pennsylvania as perceived by the health instruction supervisors. M.Ed. in Physical Education, 1977, 77 p. (W. Eck)

Ss were 150 randomly selected HE instruction supervisors in selected PA public secondary schools during the 1976-77 academic year. The questionnaire packet was sent to the HS principal, who passed it to the HE supervisor to have the questionnaire completed. The questionnaire was composed of 4 sections: HE instruction supervisor, HE instruction personnel, HE instruction, and a free response section for clarification. The questions dealt with scheduling; grouping of students; resources used; HE teacher workload and duties; supervisor duties, jurisdiction, and experience; professional preparation of HE teaching staff; structure of program; textbook used; and subject areas taught. Findings were: Many schools did not have a certified HE supervisor; the designated head of HE instruction generally taught more PE than HE; few HE teachers had an advanced degree in HE and few taught solely HE; most HE instruction classes met 3 times/wk, usually in grade 10 or 11, and were coed; 3 out of 4 schools used the Conceptual Guidelines for School Health Programs in PA in devising their programs; team teaching and field trips were not frequently used; most schools used resource personnel to aid in instruction; drug education was the area taught by most schools in the secondary grades; there was moderate use of affective teaching methods. Implication was: HE teacher preparation was a major weakness, but, since 1970, institutions of higher learning in PA have begun to initiate HE programs at the undergraduate and graduate levels to train specialists in HE.

281. MILLER, Lynn. Sex-role orientation, attitudes toward women and gender preferance of tennis instructors. M.S. in Physical Education, 1978, 62 p. (D. Harris)
The gender preference that a woman has for her instructor of tennis was investigated. More specifically, gender preference was explored in relation to the Ss' sex-role orientation, attitudes toward women, current instructor, and previous exposure to tennis instructors. 100 women were given the Personal Attributes Questionnaire, a test devised by Helmreich and Spence, to determine their sex-role orientation (androgynous, masculine, feminine, or undifferentiated). In addition, Ss were asked to answer the question, "If you had to choose between a male or a female tennis instructor, which one would you prefer?" Finally, a 15-question Attitudes toward Women Scale, also devised by Helmreich and Spence, and a short background questionnaire were completed. Results indicated that there was no sig relationship between a woman's gender preference of tennis instructors and her sex-role orientation, current instructor, or previous exposure to tennis instructors.

In addition, Ss did not differ sig in their attitudes toward women regardless of their sex-role orientation or gender preference.

282. MOORE, Sandra L. The Ancient Olympic Games as a culturally unifying force for Greek nationalism. M.S. in Physical Education, 1977, 116 p. (J. Thompson)
An intriguing aspect of ancient Greek civilization was the decided lack of political unification throughout its history. The development of a system of city-states, or poleis, created a number of politically independent communities each with its own distinctive institutions and way of life. Despite the political separation, ties of common race, language, and traditions existed among the ancient Greeks producing a cultural unity which was exhibited at the great athletic festivals. The oldest and most celebrated of these festivals took place every 4 years in the sacred altis of Olympia. Olympia stayed aloof from the struggles that divided the rest of Hellas, and provided a neutral place where all could come in peace and celebrate their nationality. The athletic festival at Olympia, throughout the course of Greek history, gave added support to growing feelings of panhellenism. At the festival, local differences were forgotten and the collective opinion of the Greek world was fully expressed. Olympic athletes competed as representatives of their states, and their fortunes were identified with their poleis. Yet, the gathering of citizens from every part of the Greek world quickened the consciousness of common brotherhood and tradition.

283. MYERS, Judith L. The association between leadership components of the resident camp experience and camper development in self-concept, interpersonal affect, and environmental attitude. Ph.D. in Physical Education, 1978, 356 p. (B. van der Smissen)
Ss were 122 campers and 100 camp staff from 3 church-related, 2 privately-owned, and 2 non-profit foundation camps in NE US. Camps served males and females, 10-14 yrs old, for 2 4-wk sessions. Data were collected by site visitation. Staff data were taken in the beginning, mid-, and end of summer by Dimock L Inventory, Withall Social Emotional Climate Index, Staff Background Information Questionnaire, Job Responsibility Ranking form, Doty's Counselor Rating, Staff Job Record, and Counselor Rating instruments. Camper measures were taken in the beginning and end of 2nd camp session: Piers-Harris Children's Self-Concept Scale, Bovard Interpersonal Affect Scale, Millward-Ginter Outdoor Attitude

Inventory, Camper Background Information Questionnaire, Camp Activity Record, and Doty's Camper-Counselor Rating. Sig positive changes in camper self-concept and environmental attitude over a 4-wk resident camp exp; camper age and previous camper exp affect camper pre-camp self-concept, and the type of community where a camper lived relates to camper pre-camp attitudes about learning in and about the out-of-doors; single as well as combinations of 3 or 4 leadership components were associated with camper change in the 3 areas studied and accounted for 9-24% of the change. No sig changes in overall leadership attitudes of staff; however, a sig decline in flexibility with tendency for staff to become less friendly and slightly more autocratic at end of summer. Overall intent of staff communicative behavior was camper-sustaining; communicative behavior appeared to be related to type of function in which staff member was engaged.

284. NIEVES, Ramon L. Attitudes of visotors toward San Juan National Historic Sites in a cross-cultural setting. M.Ed. in Recreation and Parks, 1977, 117 p. (P. Farrell)

Diffs in attitudes between PR (N=232) and US (N=199) visitors to San Juan National Historic Sites were measured by a Semantic Differential attitude questionnaire made up of 8 word-concept and 10 adjectival scales. The test was given in English and Spanish during the wk of Dec. 26-31, 1976, at the 2 main facilities of San Juan Historic Site. Results were analyzed by SPSS computer programs with mean and student's *t*-test calculated across all 8 concepts and 10 scales for the 2 groups of Ss. Results showed diffs in attitudes between the 2 cultural groups where PR visitors registered more favorable attitudes toward the forts. Diffs were attributed to cultural and ethnic backgrounds of the 2 groups of visitors.

285. NORMAN, Robert William Ker. The use of electromyography in the calculation of dynamic joint torque. Ph.D. in Physical Education, 1977, 254 p. (R. Nelson)

The purpose of the study was to develop and evaluate an EMG technique to account for individual contributions of motor unit activation of biceps, brachioradialis and triceps, to the resultant dynamic joint torque produced by the combined activity of these muscles. Horizontal flexion and extension movements of the forearm were studied. A model was developed which calculated the time history of the resultant dynamic joint torque from the individual muscle torques. The muscle torques were calculated from a series of 40 msec normalized integrated EMGs, the instantaneous value of the moment arm length as the forearm moved and the theoretical max isometric force that the muscle could generate based on its cross-sectional area. Plots of the resultant torques measured from an acdelerometer and the forearm moment of inertia showed close similarity with those predicted by the model during the concentric phases of slow and moderate speed movements of 5 subjects. The eccentric phases of the movements were poorly accounted for. Refinements of the model such as incorporating muscle force-velocity effects and filtering the EMGs were discussed. A sample calculation of the appreciable bone-on-bone forces created during the types of movements studied was demonstrated.

286. OCEPEK, Helen L. The effect of a skin suit on the speed of swimming. M.Ed. in Physical Education, 1977, 38 p. (L. Magnusson)

The data for this study were collected from 16 female SHS varsity swimmers to determine if wearing a skirtless skin suit, as opposed to a skirted nylon suit, would result in faster times while swimming the 100-yd freestyle. Ss swam the 100-yd freestyle 8 times. A mean time was found for each 100-yd swim based on 3 stopwatch readings. For each S, 4 trial means were computed while swimming in a nylon suit and 4 trial means while swimming in a skin suit. A nylon suit mean and a skin suit mean were found for each S based on an average of the trial means. Data were collected in 4 nights of testing, doing 2 timings a night. The dependent t-test was used to analyze the data by evaluating the diff between Ss' mean times wearing a nylon suit as compared to Ss' mean times wearing a skin suit. A mean diff of 2.87 secs was found with the skin suit times being fastest. A t-ratio was calculated. The diff between swimming times of Ss was sig ($p < .05$). The investigator's hypothesis that wearing the skin suit would result in faster times was supported by the data.

287. PAXSON, Stephen G. The effects of hip joint position on the force-time characteristics of isometric hip adduction. M.S. in Physical Education, 1977, 64 p. (P. Cavanagh)

The effects of changes in hip joint posture on the max torque and the torque-time characteristics of the hip adductor muscle group in 18 male Ss were examined. Instrumentation was devised to allow force recordings to be made from a transducer resting on the medial femoral epicondyle during isometric adduction. All combinations of 3 angles of hip adduction and 3 angles of hip flexion were tested with the mean of 6 trials of each condition over 2 days being used in the analysis. An ANOVR with repeated measures indicated that both torque and rate of torque development were sig lowered by both flexion and adduction of the hip. While the findings for torque were supported by previous literature, there is little additional evidence concerning the effects of change in muscle length upon the rate of force development.

288. PETROSKI, Richard A. The prediction of self-actualization and belongingness reasons for preferred leisure participation of the rural elderly. M.S. in Recreation and Parks, 1977, 82 p. (H. Lundegren)
159 rural elderly citizens completed the Leisure Need and Self-Esteem Blank (NEST), which was devised for this study to identify self-actualization and/or belongingness reasons for preferred leisure participation. The NEST was composed of 3 parts: a 6-item measure of self-esteem, a request to list the S's 3 favorite leisure activities, and a request to state 2 reasons as to why the S preferred the activity. The reasons were categorized as self-actualization or belongingness. Certain demographic information was also requested on the NEST. Multiple regression analysis was employed to test whether the independent variables of age, sex, marital status, and/or self-esteem were related to self-actualization or belongingness as reasons of preferred leisure participation for a rural elderly population. Age, marital status, and self-esteem were sig related to self-actualization and belongingness ($p < .05$) whereas sex was not found to be sig related. Positive relationships were found between self-actualization and self-esteem, 74 yrs of age and under, and married status as well as belongingness and single status, 75 yrs of age and over, and low self-esteem. Belongingness and self-actualization were perfectly inversely related on the NEST.

289. PHEASANT, Nancy H. The effects of two recreation personnel staffing patterns on the activity participation of mentally retarded persons. M.Ed. in Recreation and Parks, 1977, 106 p. (H. Lundegren)
Ss were 24 severely retarded individuals, 12F and 12M, ranging in age from 14 to 21, who had little exposure to planned REC programs. Ss were divided equally by sex into 2 groups, with 5 staff working with 1 group and 3 staff working with the other. Various pieces of equipment designed for development of motor skills were utilized. Records of min of participation and anecdotal records were charted daily by a trained observer and the investigator and summarized on a wkly basis. The

study was conducted 1 hr per day, 5 days a wk over a 6 wk period. An independent _t_-test was sig ($p < .05$) for only 1 of the 6 wks, a dependent _t_-test ($p < .05$) was sig for all of the 6 wks. Increased staffing patterns do not necessarily result in increased participation but exposure to planned activity decreases unacceptable behavior.

290. RINEAR, Charles E. _An epidemiological and attitudinal analysis of rape and other sexual assault among urban female hospital personnel_. D.Ed. in Physical Education, 1977, 366 p. (K. Clarke)
Questionnaire survey of 6,807 urban female hospital personnel during the spring of 1976 to characterize, epidemiologically, the experiences of reported/unreported, and attempted/completed sexual assaults. The study also examined the association of selected intervening variables with attitudes and anticipated reactive behavior concerning sexual assault. The findings indicated that sexual assault was not infrequent (33 completed rape assaults/1,000 respondents); further, a considerable no. had been victimized more than once. The majority of sexual assaults (69.5%) were not reported to police. Characteristics surrounding reported/unreported, and attempted/completed sexual assaults differed in regard to the offender-victim relationship, the assault scenario, and post-assault effects upon the victim's life. Attitudes and anticipated reactive behavior regarding sexual assault were related to background variables, current risk of exposure to sexual assault, and victimization experience. The majority of captured offenders tried were not convicted of the offense. While many women expressed intentions of resisting a sexual assault, few were trained in self-defense or carried a weapon or warning device. Struggling and running represented an effective form of resistance against an attacker while pleading did not.

291. ROSENZWEIG, Janet F. _Contraceptive knowledge, attitudes and behaviors of adolescent males_. M.S. in Physical Education, 1977, 81 p. (R. St. Pierre)
Ss were 162 males, ranging in age from 13-20 yrs; 85 were SHS students, 77 were 1st term freshmen at a large NE university. 92% of the SHS students were black, 94.8% of the university freshmen were white. Ss were administered a 15-point Contraceptive Knowledge Scale, a Sexual and Contraception Behavior Scale, and a Premarital Contraceptive Attitude Scale. Findings were: 77.2% of the Ss had experienced sexual intercourse; the mean age of 1st intercourse was 13.5 yrs. 12 of the Ss had impregnated the partner; 5

live births and 1 miscarriage were reported by the HS students; 6 abortions were reported by the university freshmen. 87% of the Ss had formal sex education in schools. The mean score on the Contraceptive Knowledge Scale was 10.8 of a possible 15. School was overwhelmingly listed as the primary source of sex and contraceptive information, followed by male friends, media, sex partners, parents, female friends, and medical personnel, in that order. No relation was found between scores on the Contraceptive Knowledge Scale and use of contraception at last intercourse or frequency of contraception use. The mean score on the Premarital Contraceptive Attitude Scale was 78.3, SD 19.6 of a possible 175. 83.3% of the Ss disagreed with the statement, "Making a girl pregnant would prove my masculinity." 79.1% of the Ss disagreed that contraception is solely a woman's responsibility. Condoms were most often reported as the type of contraception used.

292. RUMRICH, Patricia E. The effects of sex-role orientation and level of physical activity on personal space. M.S. in Physical Education, 1977, 82 p. (D. Harris)
This investigation explored the effects of sex-role orientation and level of physical activity on personal space in women responding to male and female "total stranger" stimuli. Female undergraduates (N=120) were selected for study from 417 women tested in required PE courses at PSU during spring term 1977. Responses to the Personal Attributes Questionnaire and the Physical Activity Scale, a self-report measure developed by the investigator, constituted the basis for selection. The Ss were 15 androgynous, 15 masculine, 15 feminine, and 15 undifferentiated physically active and inactive women. The Comfortable Interpersonal Distance scale was administered to measure personal space. The data were analyzed in an activity level by sex-role orientation by sex of target stimuli (2 x 4 x 2) ANOVA with repeated measures on the last factor. There were no sig effects for sex-role orientation or level of activity. A highly sig effect ($p < .001$) was obtained for the sex of the target stimuli. Ss used less space when reacting to the approach of a same-sex rather than opposite-sex stimulus.

293. SALTARELLI, Arthur J. The effects of response-produced feedback on the direction and extent of movement. M.S. in Physical Education, 1977, 115 p. (R. Christina)
The hypothesis of Adams' (1971) closed-loop theory that the memory trace and the perceptual trace are independent memory

states was tested by determining whether feedback (FB) stimuli affect movement extent but not movement direction when KR is given. Another problem was whether visual and proprioceptive FB contributed equally to the learning of movement direction. A 2-dimensional (direction and extent) linear positioning task was used that involved reproducing a criterion movement of 27.5 cm at 10° to the right of the Y-axis of a Cartesian coordinate system set in the plane 23° above the horizontal and in front of the S. 4 groups of 15 male and female college students performed 40 KR-acquisition trials, 20 KR-withdrawal trials, and 20 KR-reinstatement trials under 1 of 4 FB conditions. The treatment conditions were: vision-proprioception (spring tension added to the stylus), vision-no proprioception, no vision-proprioception, and no vision-no proprioception. The results failed to support the hypothesis that visual FB affected both extent and terminal direction over all 3 phases. However, the correlational data between initial and terminal direction revealed that terminal direction was not an adequate measure of memory trace performance. Proprioceptive FB had no influence on either direction or extent performance.

294. SHANEYFELT, Shelley L. The effects of Cratty's Agility Program on selected gross motor skills of learning disabled children of elementary school age. M.S. in Physical Education, 1977, 71 p. (H. Lundegren)
23 children (15 males and 8 females) aged 8-12, classified as learning disabled in the Franklin Regional School District, Murrysville, Pa were the Ss in this study. Ss were divided into 2 groups: exp (E) and guided play (GP). Both groups met for 30 min periods, twice a wk for 15 wks. The Es received activities from Cratty's agility program and the GP group had free time guided by the equipment made available to them. A battery of motor skills tests was administered individually on a pre-post program basis, with a re-test 3 days later in order to assess reliability. A Mann-Whitney U and Wilcoxon signed ranks tests when applied to the data showed sig diffs between groups on the locomotor agility test and within groups on the dynamic balance and locomotor agility tests. Pearson r coefficients between locomotor agility and both static and dynamic balance were low and non-sig, and between locomotor agility and flexibility were low but sig greater than zero. Reliability coefficients ranged between .89 and .98.

295. SHULL, Robert D. The effect of an outdoor adventure program on the self-esteem of delinquent adolescents. M.S. in Physical Education, 1977, 62 p. (D. Harris)
The program measured was the Butler County Community College, PA, Encounter Four Project GIG (Group and Individual Growth) E4-8D course which took place from May 9, 1977, to June 19, 1977. 18 GIG participants were measured as were 18 control group members (the latter from the New Castle Youth Development Center, New Castle, PA). Ss were males, 15-18 yrs old who met the selection criteria for GIG. Project GIG consisted of physical and mental activities involving problem-solving tasks including rock climbing, backpacking, whitewater rafting, initiative games, campcraft, search and rescue, and solo. The Texas Social Behavior Inventory was used as the measure of self-esteem. This was administered to GIG and control participants on May 9, 1977, and again on June 18, 1977. Pooled t-tests showed no sig diff between the group mean scores on the pre-test or post-test. Matched-sample t-tests showed no sig change in self-esteem for either group between inventories. It was concluded that GIG does not produce a sig positive change in self-esteem for the entire group of participants; furthermore, GIG does not produce a sig greater change in self-esteem than that experienced in a control group.

296. SINGLETON, Jerome. An analysis of employment procedures for seasonal staff utilized by municipal recreation agencies in Ontario, Canada. M.S. in Recreation and Parks, 1977, 121 p. (G. Godbey)
This study analyzed the employment procedures utilized by municipal REC agencies in Ontario, Can. in the employment of seasonal staff and compared such procedures to ideal personnel management procedures identified by Flippo. Ss consisted of chief administrators of 208 municipal agencies identified by the Ontario Ministry of Culture and REC. A questionnaire was administered and returns received from 84 administrators. Results showed that the personal interview was used by 83% of the agencies; 78% used written application forms; 60% checked references; 30% utilized a demonstration of leadership skills, and only 5% used written tests. Through X^2 analysis it was determined that a sig relationship existed between an agency's geographic location, population size, no. of full-time staff, length of department's existence and length of full-time staff employed and the probability that it utilized a written application form, an evaluation form during the interview, the job category of the interviewer,

and the length of time after the interview by which the applicant was contacted for hiring.

297. SPAGNUOLO, Francis M. The development of Wilkes College as a liberal arts institution and a history of its wrestling program. M.Ed. in Physical Education, 1977, 128 p. (J. Lucas)
This study is an organized collection of relevant facts related to the development of Wilkes College and its wrestling program. The material was viewed in respect to the athletic growth of the College within the context of the intercollegiate athletic department and as an integral unit of the liberal arts program. The historical material gathered was evaluated as to its reliability through external and internal criticism to determine its authenticity and then identified as primary or secondary in nature. After analyzing the information, it was then arranged into chronological order, divided into chapters, and subdivided according to topic and season. The investigation concluded that although academics are the basis of any institution of higher learning, athletics can be influential in its growth. Wilkes College's wrestling program has not only been an integral part of the intercollegiate program but a part of the total growth of the institution. Because of a mutual strengthening of athletics and academics, the reputation of Wilkes College has been enhanced.

298. STELLEFSON, Wayne M. The effects of dissonant information and subsequent reduction mechanisms concerning proprietary analgesics in college-level students. M.S. in Physical Education, 1977, 68 p. (R. St. Pierre)
This study attempted to determine how consumers dealt with inconsistent information related to OTC analgesics, and examine the educational implications concerning change in consumer knowledge, behavior, and predicted attitudes. This investigation used 174 volunteer Ss from PSU. Both the exp and control groups received a pre- and post-evaluation questionnaire. The items on these testing mechanisms attempted to ascertain each S's knowledge, opinions, behaviors, and predicted attitudes concerning OTC analgesics. The exp group was issued a "fact sheet" between pre- and post-testings. Dissonance was assumed to erupt within individuals who found information in the "fact sheet" inconsistent with their own cognitions. Questions to determine how Ss perceived dissonance and subsequent reduction were also asked of the exp group in the post-

questionnaire. Knowledge changed sig in favor of the exp Ss receiving a "fact sheet". The data supported the theory of cognitive dissonance and the assumption that some disharmony and change would follow the acquisition of new information. Neither the exp or control group illustrated a sig change in behavioral responses. This may be due to insufficient time transpiration, since over 15% did show sig shifts in predicted attitudes. These attitudes, given time, could blossom to pronounced behavioral changes. Follow-up procedures, however, were impossible in the scope of this investigation. Cognitions, nevertheless, were found to be more prone to change with the presentation of inconsistent information, than behaviors or predicted attitudes.

299. STEVENSON, John R. The influence of starting block angle on the grab start in competitive swimming.
M.S. in Physical Education, 1977, 85 p. (C. Morehouse)
To determine the effects of starting block angles of 0, 10, 20, and 30° above the horizontal on the performance of the grab start, selected mechanical factors were studied, including: angles of body projection at take-off and incidence at water entry, take-off and entry velocities, horizontal distance of projection, vertical hand forces on the front edge of the starting block, and various time phases of the start and 25-yd swimming performance. Ss were 10 swimmers from PSU's Men's Varsity Swimming Team. Each S performed 3 trials (1 of which was filmed) from each of the 4 block angles. Each trial consisted of a grab start and a freestyle swim of 25 yds at max speed. Raw data for 15 mechanical variables were extracted from the film and force recordings and served as input to computer programs to derive the various parameters studied. These data were evaluated by ANOVA tests with repeated measures. Any sig diff ($p < .05$) was then examined by the use of Student-Newman-Keuls post hoc comparison tests to determine the nature of the diff. Results included: the 20° and 30° block angles produced a sig shorter flight time than the 0° and 10° angles; the 20° angle produced a sig shorter time to initial entry than the 0° angle; the 0° and 20° angles produced sig shorter 25-yd swim times than the 10° and 30° angles; the 30° angle produced sig less peak vertical hand force than the 0° angle; the 30° angle produced a sig smaller change in vertical hand force from pre-gun steady to peak than the 0° and 10° angles; and the 30° angle produced a sig shorter time to peak vertical hand force than the 0° or 10° angles. The 20° block angle provided the largest number of advantages in

reduction of the time spent in the performance of the grab start and subsequent 25-yd sprint swim.

300. TAYLOR, Charles A. An analysis of selected employee characteristics in public recreation and park agencies throughout the United States. M.S. in Recreation and Parks, 1977, 127 p. (G. Godbey)

A series of hypotheses were generated concerning the relationships of selected full-time employee characteristics in 1,862 public REC and park agencies at the local, county, special district, and state levels in the US to the level of government agency, municipal size, occupational category, geographical region, the presence or absence of a REC and/or park agency affirmative action program, and the presence or absence of a governing agency affirmative action program, and were analyzed using both descriptive statistics and X^2 analysis. Results showed that overall: 85% of all positions were filled by males, white employees comprised 77.78% of all positions while Black, American Indian, Spanish, and Oriental employees made up 14.7%, .57%, 6.07% and .87%, respectively. Employees with a degree in REC and/or parks accounted for 15% of the work force and 46.77% of all employees holding college or university degrees. Statistical sig ($p < .001$) was found in 34 of 38 hypotheses.

301. TIERNAN, Kathleen M. The effects of affective education on change in the self-concept and self-esteem of primary grade children. M.S. in Physical Education, 1977, 83 p. (K. Clarke)

2 affective education programs designed to increase self-concept and self-esteem of 200 primary school children were compared: 1 entitled Dimensions of Personality (DOP); the other Developing Understanding of Self and Others (DUSO). It was hypothesized that each program would successfully increase children's self-concept and self-esteem after 13 classroom sessions held weekly for 45 mins, and that DUSO would be more effective than DOP. The sessions were conducted by 3 specially trained teachers. Children were randomly assigned to DUSO, DOP, or a control group, and the controls experienced a carefully chosen series of physical activities. Measures of self-concept and self-esteem included: Keat's Teacher Rating of Student Behavior, the nonverbal esteem variables of the Self-Social Constructs Test, and the Modified Piers-Harris Children's Self-Concept Scale. All 3 groups scored similarly according to pre-test analysis. For post-treatment, ANOVA evaluation disclosed a gain for 88% of the variables but no relative gain for any

1 group over the others. The possibility of reinforcing positive self-concepts through affective education is encouraging, but more classroom experiences may be required than were possible in this study's design.

302. TURPIN, Jeanette M. The effect of verbal training without model, verbal/modeling, and verbal training with model on the acquisition and retention of a six task motor sequence by educable mentally retarded children. M.S. in Physical Education, 1977, 75 p. (H. Lundegren)

The effects of verbal training without model, verbal/modeling, and verbal training with model teaching methods were studied utilizing 46 ELE school EMR Ss. The Ss were equally divided among the 3 groups and received instruction in 1 session. Following a 1 day retention interval, retention testing took place. An ANOVA between groups on the no. of trials necessary to learn the motor sequence showed a sig diff ($p > .05$). The Student-Newman-Keuls test indicated a sig diff between the verbal training without model and verbal/modeling groups ($p > .05$), with the verbal training without model group showing the faster learning rate. No sig diff was found on an ANOVA between groups on the number of trials necessary to relearn the motor sequence ($p < .05$).

303. WORRELL, Gary L. The relationship of self-perceived aggression and observed aggressive behavior of ice hockey players. M.S. in Physical Education, 1977, 87 p. (D. Harris)

A field setting was used to study the relationship of self-perceived aggression and observed aggressive behavior of ice hockey players. Ss were 19 undergraduate male members of the 1976-77 University of New Brunswick Red Barons ice hockey team. The Bredemeier Athletic Aggression Inventory (BAAGI) and a modified version of Russell's aggression formula were used to study perceived and observed aggressive behavior, respectively, over a 17-game hockey season. Treatment conditions involved examining perceived and observed aggressive behavior by game no., location, result, and player position. The independent variables investigated were perceived and observed aggression. Duration of the study was from Nov. 12, 1976 to Feb. 11, 1977. Spearman rank-order correlations and ANOVA were used in the analysis of data. Sig diffs were found for observed aggression by game no., location, and result. Ice hockey players were more aggressive at home than away and in games that they won as compared to games that they lost or tied. A ($p < .052$) approached sig for observed aggression of forwards and defensemen. No sig diffs were found when examining perceived aggression by game no., location, result, and player position. The relationship between perceived and observed aggression received only equivocal support.

PURDUE UNIVERSITY (Carol J. Widule)
WEST LAFAYETTE, INDIANA

304. MADDEN, Dennis B. A system for measuring attendance on developed outdoor recreation areas. M.S. Thesis, 1977, 91 p. (H. Corbin)
This study deals with a method for measuring recreational consumption on developed outdoor REC areas. Its applicability is limited to those areas to which accessibility is strictly controlled since estimates of visitation are dependent upon either pneumatic traffic counts or total entrance fees collected. The specific advantage to the adoption of this technique is the minimal sampling effort required to obtain statistically reliable estimates of park attendance. Analysis of data collected on 2 state-owned properties in IN during the summer of 1976 revealed that the functional relationship between visitation and either of the selected indicators could be effectively described with as little as 45 hrs of sampling. Several restrictions apply to the selection of this sample including stratification according to expected intensity of visitation. The results, nevertheless, are expected to apply to developed outdoor REC areas regardless of whether traffic counts or gate receipts are chosen as the indicator of use.

305. MAPES, Merilee G. Second grade children's performance of the overhand throw in relation to maternal and self preferences for play activities. M.S. in Physical Education, 1977, 85 p. (M. Clifton)
A q-sort test intended to elicit play activity preferences and an overhand throw ball velocity test were administered to 53 male and female 2nd grade children. Their mothers also participated in the q-sort test in which they indicated their play activity preferences for their respective children. Results supported the predictions that the boys would be superior to the girls in throwing performance, and children's preferences for play activities would not be indicative of their overhand throwing ability. No support was found for predictions that the mother's play activity preferences would be sig related to their children's preferences; and the

mother's activity preferences would be sig related to their children's throwing velocities.

306. MERSEREAU, Michele R. The relationship between measures of dynamic process, output, and dynamic stability in the development of running and jumping patterns of preschool age females. Ph.D. in Physical Education, 1977, 108 p. (M. Clifton)
16 females between 3 and 5 years of age were studied. Output measures of running speed and jumping distance were obtained from film data. Kinetic energy values of the leg, thigh and total body were obtained. Multiple regression procedures were used to evaluate the relation between output and dynamic process measures, and between output and dynamic stability measures which were obtained from performance on the stabilometer. Canonical r procedures identified the relationship between the set of dynamic stability measures and the set of dynamic process measures. A moderate relationship was found between the two output measures of running speed and jumping distance. Kinetic energy variables served as excellent predictors of running speed, whereas these same variables were only moderately successful in predicting jumping distance.

SOUTH DAKOTA STATE UNIVERSITY (Neil Hattlestad)
BROOKINGS, SOUTH DAKOTA

307. Berseth, Benda L. Attitudes of participants toward the Brookings Middle School Interscholastic Athletic Program. M.S. in Physical Education, 1977, 62 p. (N. Hattlestad)
Determination of the attitudes of participants toward their experience in the interscholastic athletic program at the Brookings Middle School, in Brookings, SD was undertaken. Determining the influence of sex and grade level on attitudes toward the athletic program involved a questionnaire designed to investigate attitudes in three areas: the initial motivations leading to participation in athletics; ways in which the actual athletic experience coincided or contrasted with the student's expectations; and the place of athletics in each student's value system. In general, members of both sexes and grade levels were supportive of the program. Approximately 70% of the students indicated that their parents encouraged them to participate in athletics, and they believed their parents were proud of them due to participation in athletics. Peer group pressure and popularity had little influence on the level of athletic participation.

Females and 7th grade students did not feel their experience or performance in athletics paralleled their pre-season expectations to the degree that it did for the males and 8th grade students. In the eyes of the students, participating in athletics improved self-concept. A large percentage of students believe that athletics was an important part of their educational experience and would continue to have high priority throughout their adult life.

308. BLAZEY, Michael A. Comparative analysis of participation and finances in programs of the Brookings Parks and Recreation Department. M.S. in Health, Physical Education and Recreation, 1977, 71 p. (N. Hattlestad)
Percentages of total program attendance were calculated for 4 residency categories; city residents, school district residents, county residents, and out-of-county residents. The cost and revenue for each REC activity within the program were computed. This was followed by a comparison of the level of support provided participants of each residency category and the actual cost of specific activities. The data were collected from the enrollment and financial records of the Brookings Parks and REC Department. It was found that Brookings City residents comprised 75.45% of the total attendance and were supported by 79.27% of the collected fees, and 80.71% of the municipal tax revenue. It was also found that non-resident participants comprised 24.55% of the total, and were supported by 20.73% of the collected fees, and by 19.29% of the municipal tax revenue.

309. DOBRATZ, LeAnne E. A comparison of enrollment in physical education courses and leisure time physical activity patterns among selected South Dakota State University graduates. M.S. in Physical Education, 1977, 58 p. (N. Hattlestad)
A survey was conducted to determine whether enrollment in the required fitness and lifetime activity courses at SDSU had influenced members of the graduating classes of this institution in their selection of leisure time physical activities. 208 questionnaires were mailed to selected 1970 graduates of SDSU and 206 to members of the 1972 class. 61% of the questionnaires were received from the class of 1970, while 61% rate of return was realized for the class of 1972. More than 1/3 of the respondents from both graduating classes (38% from the class of 1970, and 41% from the class of 1972) believed that their enrollment in the fitness and lifetime activities program had influenced their present participation levels in leisure time physical

activities. Although men presently participate more frequently than women, more than half of the respondents of either sex actively engage in leisure time physical activities twice per wk or more. Individual sport activities had the greatest amount of carry-over for the respondents.

310. FLYNN, Jan E. The effects of varying intensities of physical activity on performance of a gross motor task. M.S. in Physical Education, 1977, 39 p. (N. Hattlestad)
The effects of varying intensities of warm-up on the performance of a gross motor task were tested among women who were members of a basic individual fitness class. The bicycle ergometer was used as the warm-up device, while the HR was monitored through the use of a Corbin-Farnsworth Cardiotachometer. A modified jump test served as the gross motor task. The data collection occurred over a 4 day period. An ANOVA procedure was used to determine whether sig diffs occurred in test performance between Ss, and between the 4 treatments for each S. Sig diffs ($p < .05$) were observed between treatments for each S, however, there were no sig diffs between treatments for each S. Under the conditions which existed during this investigation, it was concluded that warm-up of varying intensities does not sig influence performance on a gross motor task.

311. MURPHY, Thomas J. The effects of mental warm-up on jump shooting accuracy among selected boys' high school basketball players. M.S. in Health, Physical Education and Recreation, 1977, 49 p. (N. Hattlestad)
This study determined the effect of mental practice, as a warm-up activity, on performance in shooting accuracy as measured by success in the execution of a 15 foot jump shot at an angle of 45°. A 2nd purpose was to determine whether a relationship existed between the change in shooting accuracy from pre-test to post-test and academic achievement as measured by each S's GPA. The Ss were sophomore and junior members of the Roncalli HS basketball team of Aberdeen, SD. They were divided into 2 groups through the use of a stratified random allocation procedure. The mental practice form of warm-up consisted of visual instruction, verbal instruction, and imaginary practice. Although the mental practice group experienced greater improvement than members of the control group, these gains in shooting accuracy were not sig ($p > .05$). Although not sig there was a very low positive r between improvement in shooting accuracy and GPAs among members of the mental practice group.

312. NESVIG, Lisa P. The relationship between achievement motivation and performance among intercollegiate gymnasts. M.S. in Physical Education, 1977, 41 p. (N. Boetel)
This study determined whether a relationship exists between an athlete's level of achievement motivation and gymnastics meet performance. A secondary purpose was to determine if the level of achievement motivation differed between and among male and female gymnasts. The McClelland Thematic Apperception Test (MTAT) was administered to measure the levels of achievement motivation among male and female members of the SDSU Intercollegiate gymnastics team. Each S's gymnastics meet scores served as the measure of proficiency in gymnastics. Using the Pearson r, it was found that no sig relationship existed between achievement motivation and gymnastics meet performance among the men or among the women ($p > .05$). Through the use of a t-test, it was found that a sig diff existed between scores attained by men and women on the MTAT ($p < .05$). ANOVA demonstrated sig diffs in MTAT scores among the men but not among the women.

SOUTHEAST MISSOURI STATE UNIVERSITY (Ronald F. Kirby)
CAPE GIRARDEAU, MISSOURI

313. FIDLER, Randall S. An investigation of the relationship between selected flexibility and agility measures. M.A. in Teaching, 1977, 60 p. (R. Kirby)
This study investigated the relationship between selected agility and flexibility measures. Agility refers to the ability to change the position and direction of movement of the body rapidly and accurately in space on a horizontal plane. Flexibility refers to the measurement in in. or degrees, of the ability of certain body segments to be moved through the action of the muscles over the involved joints. The measurements were taken on 100 male college students, randomly selected from 200 volunteers, who ranged in age from 17-22. 4 flexibility measurements were taken by means of a Leighton flexometer. The 2 agility tests administered were the IL Agility Run and the Dodging Run. The investigator concluded that there is no sig relationship between the agility and the 4 flexibility measurements used in this study.

314. HAGGARD, Cynthia A. The effects of transcendental meditation on the athletic performance of women. M.A. in Teaching, 1977, 57 p. (D. Hamer)
18 Ss were randomly chosen from the 1977 Varsity Softball Team at SMSU. The Ss were randomly assigned to 2 groups of

9 and all were pre-tested in the following 5 areas of athletic performance: grip strength, agility, power, cardiorespiratory endurance and speed. Following the pre-test sessions the exp group was taught and practiced transcendental meditation for 8 wks. Each group was then post-tested using the identical test items as in the pre-test. The results reported no sig diff between the 2 groups in the following measures of athletic performance: speed, grip strength, agility and power. There was a sig diff reported between groups in the area of cardiorespiratory endurance. There was also no sig gain in performance from pre-test to post-test for either the exp or the control group.

315. MAUK, Ted E. A study of the effects of participation in high school athletics on academic achievement. M.A. in Teaching, 1977, 33 p. (R. Kirby)
The effects of athletic participation on the academic achievement of HS athletes was determined. The Ss were 20 HS varsity athletes and a matched group of 20 HS non-athletes. Academic achievement of the matched groups was measured through comparisons of mean GPAs and mean raw scores achieved on the School and College Ability Test. The investigator concluded that there is no sig diff in the academic achievement of HS athletes and non-athletes as determined by these measurement devices.

316. WRIGHT, Beverly C. An adventure curriculum in the physical education program at Charleston, Missouri. M.A. in Teaching, 1977, 66 p. (S. Caskey)
An adventure curriculum was developed in this project. Individual and group activities were established for JHS Ss at Charleston, MO. Activities were sequenced and developed to include varying degrees of stress. The task was successful upon completion of the assigned activity. Cooperation during a group activity was the key to success. A questionnaire was completed by the participants prior to the program and upon completion stating attitudes and feelings about themselves and the program. Results of the questionnaire were recorded and utilized by the teacher, counselor, and/or others.

SOUTHERN ILLINOIS UNIVERSITY (Ronald G. Knowlton)
CARBONDALE, ILLINOIS

317. ACORD, Doris M. Attitudes toward physical activity in coeducational and non-coeducational physical education programs. Ph.D. in Physical Education, 1977, 165 p. (J. Thorpe)

Attitudes of 480 secondary students in coeducational and non-coeducational PE programs were assessed by Kenyon's ATPA Inventory. Ss were randomly selected on the basis of sex, grade level, and type of program from 14 HSs in Southern IL. Data were analyzed via an ANOVA technique. A sig diff between programs existed on the health and fitness measure. On the measures of health and fitness, social, ascetic, and pursuit of vertigo, sig diffs between the sexes existed. Grade-level diffs existed on the ascetic and pursuit of vertigo measures. A sig interaction between grade level and program existed on the aesthetic measure. No sig diff existed among the 14 schools on any of the 6 attitude sub-scales.

318. BENEDICT, Judith S. An investigation of selected variables which best determine the winner of a tie game in field hockey. M.S. in Physical Education, 1977, 93 p. (C. West)

11 collegiate varsity teams of women field hockey players competing during the fall of 1976 participated in the study. The predictor variables investigated in the study were as follows: penetration time, shots on goal, long corners, short corners and penalty strokes. The criterion variables were actual game score and win-tie-loss record. The data were collected through the use of observational techniques and analyzed using the Pearson r and Linear Regression techniques ($p < .01$). The writer found that shots on goal appeared to be the single best predictor of the winner of a tie game in field hockey. It was also found that the combination of 2 variables, shots on goal and long corners, appeared to be the most efficient and accurate determiner of the winner of a tie game.

319. BLAHA, Sandra. An examination of the relative effectiveness of two teaching methods for the full swing in golf. M.S. in Physical Education, 1977, 125 p. (C. West)

2 classes of beginning golfers enrolled at SIU during the spring semester of 1976 participated in the study. The 35 men and women were divided into 4 groups, 2 in each class. 1 group in each class was encouraged initially to strive for velocity using a full swing, while the other group was encouraged initially to strive for accuracy using a full swing. The data were collected for each S using a subjective rating of form and a 5-iron test of skill, a measure of actual distance, velocity and lateral deviation of each hit. The data were analyzed using the Pearson r and linear regression techniques. The writer found that Ss in the groups

striving for velocity performed sig better than Ss in the groups striving for accuracy when velocity was a criterion measure of performance ($p < .10$). Both groups performed similarly when lateral deviation, actual distance and rating of form served as criterion measures of performance.

320. CASCIO, Lawrence T. A cinematographic analysis comparing approach velocity of pole vaulters using horizontal and vertical pole carries. M.S. in Physical Education, 1977, 53 p. (L. Good)
Determining a diff in approach velocity of vaulters using horizontal and vertical pole carries was examined. 4 Ss, ages 20, 21, 25, and 27 with vaulting abilities of 15, 15-6, 17 and 18 ft were used. Each S made 4 approaches; 2 horizontal and 2 vertical. Both methods compared horizontal approach velocity. Subproblems examined running kinematic factors: stride length, stride rate, body lean and vertical displacement of the estimated CG. Descriptive methods were used. 3 Ss ran 3.23, 2.07, and 4.59% faster using the vertical while 1 S ran .88% faster using the horizontal carry. Ss underwent 1 mo training in the vertical carry prior to filming.

321. DEUTSCH, David R. Cardiorespiratory response during prolonged weight supported and non-weight supported exercise. Ph.D. in Physical Education, 1977, 168 p. (R. Knowlton)
This study was to examine the cardiorespiratory response to prolonged wt supported and non-wt supported work at 50% of the max aerobic power. VO$_2$ max of 10 college males was determined on both treadmill and bicycle ergometers. Ss then performed 60 mins of exercise at the prescribed workload during which time cardiac output by CO$_2$ rebreathing (Q), VO$_2$, HR, rectal temp and systolic BP were monitored at 15 min intervals. Using linear regression procedures data were analyzed. No sig diff in Q or VO$_2$ over time was observed. Furthermore, lactate and pH data supported the aerobic nature of the metabolic load. HR and rectal temp were sig ($p < .001$) greater with time and diffs in the HR and rectal temp response were noted between modes of exercise ($p < .01$). Pedaling elicited a higher HR than did the walking thus the SV was sig lower during pedaling ($p < .001$). Although cardiovascular dynamics adjust to meet increased demands of submax exercise, concomitant peripheral adjustments are inadequate to prevent sig elevation of core temp and HR during exercise, otherwise characterized as steady state. It was concluded that cardiovascular stress during pedaling at 50% of the

aerobic capacity is greater than during walking although S's subjective assessment of fatigue failed to distinguish this diff. Furthermore, graded exercise testing for the evaluation of functional capacity and subsequent exercise prescription must utilize the same ergometric mode to be used in serial tests and the implementation of the exercise prescription.

322. MEYER, Sandra K. The construction and evaluation of a contract approach for the teaching of gymnastics. M.S. in Physical Education, 1977, 184 p. (C. West)
A method of contracting was incorporated in 2 classes in gymnastics (Ss=39 college women). Course objectives, grade requirements based upon a point system and alternative task-contracts were predetermined. In negotiation with the instructor, each student contracted for a grade and selected the tasks she would complete in order to meet the course objectives and grade requirements. Reactions of the Ss were measured by a questionnaire. Subjective observations were recorded by the instructor. Analyses were conducted of grades (contracted & achieved), knowledge test scores and physical performance data. It was found that both the instructor and students reacted favorably to the contract method. A large majority of the students both fulfilled their contracts and achieved all of the course objectives. A large % of A's were earned. Pre- and post-test scores on a knowledge test were analyzed using a t-test for correlated samples. Results were found to be sig ($p < .05$) indicating that learning had occurred. The acquisition of physical skills was considered satisfactory. The contract method did not enhance the attitudes, appreciations and interests of the students regarding gymnastics.

323. O'Brien, Dianne B. A kinematic analysis of running patterns of mentally retarded and normal boys. Ph.D. in Physical Education, 1977, 168 p. (L. Good)
Selected kinematic factors of the running gait of mongoloid and normal boys were measured. Sub-problem I was to compare (t-test) the kinematics of the 2 groups. Sub-problem II was to determine the relation (Pearson r) between average horizontal velocity, stride rate, stride length, elbow flexion, knee flexion, trunk lean, walk/run velocity, support time, nonsupport time, and leg length within the group of mongoloid boys (N=6) and within the group of normal boys (N=6). The cinematographic analysis was limited to 7 phases in the running stride cycle. Results of the study indicated that there were sig ($p < .05$) diffs in the 2 groups for the

kinematic factors of horizontal velocity, stride cycle length, stride rate, elbow flexion, knee flexion, walk/run velocity, and support time. However, mongoloid and normal boys were not sig diff for the factors of trunk lean or nonsupport time. There were sig rs between average horizontal velocity and support time for the normal boys and sig rs between average horizontal velocity and stride length for the mongoloid boys. Furthermore, there were sig rs between leg length and stride length for the mongoloid and normal boys.

324. PANKEY, Mary A. D. The effects of interval running and weight training on the selected measures of an in-season women's volleyball team. M.S. in Education, 1977, 71 p. (R. Knowlton)

This study was conducted to determine the effects of interval running and wt training upon the selected measures of an in-season women's volleyball team. Those measures included: anaerobic power, body fat, leg strength, standing long jump, and vertical jump. The Ss were 18 members of the women's varsity volleyball team at SIU. The control Ss were 10 women enrolled in a volleyball class and participants in women's intramural volleyball at that same school. The training program lasted 10 wks, 5 days per wk, and the testing periods took place the 1st, 5th, and 10th wks. A 1-way ANOVA and post-hoc Tukey tests were performed on the exp group data, and t-tests were performed on the control group data. Sig decreases were found in body fat and sig increases were found in anaerobic power, leg strength, standing long jump, and vertical jump of the exp Ss. No sig changes were found in the control Ss.

325. SAWKA, Michael N. Cardiovascular and metabolic adaptations of marathon runners to repeated bouts of prolonged exercise. Ph.D. in Physical Education. (R. Knowlton)

The purpose of this investigation was to determine the cardiovascular and metabolic adaptations of 7 runners ($\bar{X}\dot{V}O_2$ max= 66ml/Kg/min) to 2 (80 min) bouts of prolonged submax (70%$\dot{V}O_2$ max) running (PRS) spaced by a 90-min rest. Trend analysis demonstrated that HR ($P < 0.05$) increased and stroke volume ($p < 0.05$) decreased during both prolonged runs. Sig diffs were also shown for these variables between the two PSRs. Cardiac output ($\dot{Q}$) did not decrease ($p=0.19$) during both runs as determined by trend analysis, but $\dot{Q}$ was found to be lower at 60 min ($p < 0.05$) and 75 min ($p < 0.10$) during the 2nd PSR when compared to the 1st by a dependent t-test. Despite the decreased $\dot{Q}$, arteriovenous O_2 diff ($a-\bar{V}O_2$) compensated to maintain a constant $\dot{V}O_2$. A mean initial -8.0% change in plasma volume was constant throughout both PSR's. Rectal temperature (TR) increased linearly (p 0.05) throughout both runs with terminal values of 39.7°C and 40.3°C, respectively. With the exception of the 5 min measurements, Tr was constantly higher by approximately 0.6°C during the 2nd run. A constant mean blood lactate concentration approximating 2.8mM was observed throughout each PSR. An increased hypnocapnia ($p < 0.05$) was measured throughout the 2nd run when compared to the initial PSR.

326. STIFF, Delores M. The retention of two selected balance tasks among elementary school children. Ph.D. in Physical Education, 1977, 191 p. (C. West)

ELE children (N=60) were given 3 trials on each of 5 days on a beam-walking test and a stabilometer test. Following intervals of 3 and 6 wks, Ss were given 6 retest trials over a 2-day period on each test. Performance on the beam-walking test was measured relative to the distance traveled to the point of the 2nd fall-off. Stabilometer performance was determined by the total time in balance during a 30-sec trial. Multiple linear regression analyses and factorial ANOVA with repeated measures were used to study the effects of initial level of ability, sex, grade level and/or time upon the retention of both tasks. In general, the findings indicated that proficiency in the 2 tasks increases across time. Performance in the beam-walking test increases across grade levels. Stabilometer performance decreases from the 3rd to the 4th grade, but increases from the 4th to the 5th grades. No diff was found in the retention of skill for either task between males and females. Low initial levels of ability were associated with higher increases in performance for the stabilometer task. The performance of females on the stabilometer test decreases across grade levels. This trend is also evident for males from the 3rd to the 4th grade; however, the performance of males from the 4th to the 5th grade increases. Increased performance across time on the stabilometer test differs among grade levels. Higher increases in performance are more characteristic of the 4th grade than either the 3rd or 5th grades.

SPRINGFIELD COLLEGE (William Sullivan)
SPRINGFIELD, MASSACHUSETTS

327. BEECHER, Marjorie T. Relationships of forward hip rotation velocity, magnitude of forward hip rotation, and composite arm shoulder strength to the flat tennis serve ball of velocity. M.S. in Physical Education, 1977, 78 p. (H. Scheuchenzuber)

Ss (N=27) for this study were advanced female tennis players who were measured for velocity of the tennis serve, hip mechanics, and strength of the arm, wrist and shoulder. The 2 velocity variables were measured cinematographically while strength was assessed with a tensiometer. Analysis of the data led to the conclusion that there is a relationship between the velocity of hip rotation and the velocity of the tennis serve but no relationship between forward hip rotation and the velocity of the tennis serve. Composite arm, wrist and shoulder strength is related to the velocity of the tennis serve.

328. BENSON, Jane A. The development of a movement sequence test for first grade students. M.S. in Physical Education, 1977, 125 p. (B. Jensen)

Ss for this study were 217 1st grade students. The test was developed in 2 parts. Part I tested the S's ability to sequence movements by listening to verbal directions and performing; part II evaluated the S's ability to sequence 3 locomotor movements 3 ways. Following the pilot study, 6 tasks were selected and administered for part I, and 2 tasks were administered for part II. Split-halves reliability was computed to be .71 for part I and .65 for part II. The objectivity coefficients for part I were .77, .66, and .69 and for part II, they were .87, .85 and .85. Construct validity was estimated using the Mann-Whitney U test. The diff between ranks was sig ($p < .01$) indicating that the Ss who were rated highly performed better on the movement sequence test. It was concluded that the test was valid for assessing the movement sequencing ability of 1st grade students.

329. BEST, Patricia A. The relationship of closed-mindedness to undergraduate major. D.P.E., 1977, 97 p. (W. Sullivan)

The Ss (N=720) in this study were undergraduate students at small private colleges and a large state university. They were categorized according to sex, major (PE, Psych, and Biology/Zoology), class (Fr. and Sr.), and type of institution (small private and large public). All Ss were administered the Rokeach Dogmatism Scale to test for degree of close-mindedness; the seniors were tested in May and the freshmen were tested in September. The design was a 2 x 2 x 2 x 3 and ANOVA was used to analyze the data. Results showed that males and females did not differ sig ($p > .01$). Students attending small private colleges did not differ sig ($p > .01$) from students attending a large state university.

Freshmen were found to be sig ($p < .01$) more close-minded than seniors. PE majors and biology/zoology majors were found to be sig ($p < .01$) more close-minded than psych majors.

330. BEVANS, Marilyn T. A comparison of somatotype in female gymnasts and distance runners. M.S. in Physical Education, 1977, 73 p. (W. Sinning)
The Ss in this study were female gymnasts (N=35) and distance runners (N=35) from a college population. 12 measurements were taken to determine somatotype by the use of the Heath-Carter anthropometric method. Analysis by the t-test showed that the gymnasts were sig greater than distance runners ($p < .05$) in body wt and the skinfold measurements of subscapular, suprailiac, and calf values as well as % of body fat. The gymnasts also had larger humerus and femur diameters. The gymnasts were found to be mesomorph-ectomorph while the distance runners were balanced ectomorph. Top gymnasts had a balanced mesomorph somatotype while less accomplished gymnasts showed equal mesomorphy and ectomorphy. Both gymnasts and distance runners tended to be low in fat content.

331. BREIT, Nicolas J. The effect of body position and stretching technique on the development of hip and back flexibility. D.P.E., 1977, p. 144 (E. Seymour)
Ss for this study were 60 male volunteers from PE activity classes who had impaired hip and low back flexibility. Ss were pre-tested for flexibility in the supine and erect positions and assigned to one of 4 groups resulting from the factorial arrangement of 2 factors. The factors were training body position (supine vs. erect) and training technique (active vs. neurological inhibition). Ss trained for 6 wks, 3 times per wk following which they were again tested for flexibility in the supine and erect positions. ANCOVA showed that the 2 training techniques were equally effective as were the 2 training positions. However, while testing performance was better overall in the supine position, it was found that at each testing position greater improvement occurred in the group assigned to train at that position.

332. CAHILL, Peter J. The development of a skills test for squash racquets. D.P.E., 1977, 128 p. (B. Jensen)
10 specific skill test items, relative to the essential squash skill as noted by experts, were developed and included a 30 sec rally test, forehand and backhand alley tests, forehand and backhand crosscourt tests, serve to the right and left tests, volley test, agility test, and a power test. 66 male and 41 female students served as the beginning level

Ss and 92 male varsity team members served as the intermediate level Ss. Reliability of the test items was estimated by intraclass r procedures, validity was examined by construct and concurrent validity procedures and objectivity was assessed by intraclass r procedures. Multiple R was used to determine the most efficient test battery. The final test battery which was deemed to be valid included the 30 sec rally test, the forehand crosscourt test and the volley test.

333. CRUMP-MOODY, Roberta L. The effect of angle of flexion at the knees on a tennis player's ability to move efficiently towards the ball. M.S. in Physical Education, 1977, 64 p. (B. Jensen)

Ss for this investigation were 36 male and female college students who had basic knowledge of the game of tennis. All Ss were tested for initial MT under 6 conditions resulting from a combination of 2 factors. The factors were degree of knee flexion (120, 130, and 140) and direction of movement (right and left). A 2 x 3 ANOVA with repeated measures was used to analyze the data. No diffs ($p > .05$) were found resulting in the conclusion that degree of knee flexion and direction of movement has no effect upon initial movement speed.

334. DENBY, Preston A. Basketball participation and the self-concept. D.P.E., 1977, 126 p. (J. Parks)

Ss for this investigation were male HS varsity (N=92) and 8th grade (N=92) BB players. Ss in both groups were classified as regulars or substitutes and as winners or losers based upon their teams' records. The TN Self-Concept Scale was administered to all Ss during the 1st wk of practice in Nov. and again during the last wk of the season in Feb. ANCOVA showed that the total self-concept scores of the varsity players was higher than that of the 8th graders. There were no diffs in the total self-concept of winners and losers nor between regulars and substitutes. However, in family self-concept it was observed that losers were more positive than winners.

335. ELLIOTT, Jacqueline J. The effect of specific perceptual motor training on eye-hand coordination, fine motor control, and work production rate of mentally retarded adults. M.S. in Physical Education, 1977, 82 p. (B. Jensen)

The Ss for this study were 16 mentally retarded adults employed at a Work Opportunity Center. All Ss were tested on the rotary pursuit apparatus and the Purdue pegboard prior to, during, and after 2 8-day training programs of perceptual motor activities. Only 8 of the 16 Ss met the criteria for the production rate analysis. ANOVA was used to analyze the data resulting in the following findings. The Ss' fine motor control improved during both training sessions. The Ss' eye-hand coordination improved during the 1st training session and remained stable during the 2nd training session. The Ss' production rate % did not improve during either of the training sessions.

336. FISHER, Judith C. The effects of videotape recording on swimming performance and knowledge of stroke mechanics. M.S. in Physical Education, 1977, 104 p. (B. Jensen)

Ss (N=60) were 10 to 13 yr old males and females who were randomly assigned to an E group (traditional instruction plus videotape) or a C group (traditional instruction only). Ss were pre- and post-tested for knowledge of the crawl stroke. Additionally, all Ss were administered the Burris Speed Stroke Test of front crawl prior to the instructional programs and on Friday of each wk during the programs which lasted for 3 wks. Classes were 90 mins, 5 times per wk. ANCOVA showed no diff ($p > .05$) between the 2 groups in knowledge of the crawl stroke. A 2 x 4 mixed factorial ANOVA was used to analyze the speed test scores and showed no diff ($p > .05$) between the 2 instructional methods. There were sig diffs ($p < .05$) among the 4 wkly testings which showed the speed times for the 4th testing to be faster than the 1st, 2nd and 3rd testings.

337. FORD, Robert H. The nature and extent of lifetime sports instruction in the public secondary schools of New England. M.S. in Physical Education, 1977, 95 p. (W. Sullivan)

Data for this study were collected from a questionnaire returned by 163 PE directors in secondary schools in New England. No diffs in the no. of lifetime sports activities were found among the 6 NE states nor among large, medium, and small schools. Volleyball was the most frequently offered activity and sailing was offered least frequently of those activities listed. Activities were offered more frequently to girls than to boys. The 2 major reasons which most schools gave for the absence of lifetime sports instruction were lack of facilities and equipment.

338. HILTUNEN, Vesa K. A biomechanical comparison of the diagonal stride in beginner and advanced cross-country skiers. M.S. in Physical Education, 1977, 69 p. (H. Scheuchenzuber)

Ss were 6 male undergraduate students at Springfield College. 3 were advanced cross-country skiers and 3 were beginners. Cinematographic recordings were taken as the Ss performed the diagonal stride of cross-country skiing. Analysis of the data revealed that the stride lengths and support times of the advanced skiers were greater than that of the beginners. The stride rates of the advanced skiers were slower. Horizontal displacement of total body center of gravity for the advanced skiers was greater. The advanced skiers' angles of trunk lean were less erratic and they increased and decreased their leg and knee velocities more consistently than the beginners.

339. JOHNSON, Neil R. The relationship of balance, speed, strength, height, arm and leg length to success in collegiate wrestling. D.P.E., 1977, 200 p. (E. Seymour)

The Ss (N=208) for this investigation were collegiate wrestlers with at least 2 yrs varsity experience who had wrestled in at least 50% of their teams' matches during the 1976-1977 school year. Ss were classed as successful, average, or unsuccessful according to their win-loss %s. A 2nd classification was by wt (lightwt, middlewt, heavywt). All Ss were measured for ht, arm length, and leg length and tested for RT, MT, static elbow flexion strength, explosive leg strength, and dynamic balance. Treatment of the data by ANOVA showed no diffs among the wrestlers in the 3 wt divisions on dynamic balance, explosive leg strength and RT. In elbow flexion strength the middlewts were stronger than the lightwts. Lightwts and middlewts were faster in MT and RT than the heavywts. The successful wrestlers had better balance than the unsuccessful wrestlers. The unsuccessful wrestlers had longer legs than the average and successful wrestlers. Analysis by multiple R and regression showed that no combination of the independent variables was useful in predicting success.

340. LAING, David A. Teaching the inward drive pike using three different methods of take-off. M.S. in Physical Education, 1977, 35 p. (B. Jensen)

The Ss (N=42) for this study were male and female college students enrolled in diving courses. The main criterion for S selection was that they were unable to perform the inward dive in the pike or tuck position and enter the water with the legs extended. The selected Ss were randomly assigned to 1 of 3 groups (conventional method, pendulum method, hands-up method). Ss were taught the inward dive pike according to the particular group to which they had been assigned. They practiced during a 2 wk period in which they had a chance to do approximately 40 practice dives. At the end of the 2 wk period, each S was judged on performance of the inward dive pike. ANOVA was used to analyze the data and showed no sig ($p > .05$) diffs among the 3 methods of teaching the dive.

341. McLEOD, William G. Perceptual field dependence among levels of athletes in sports with a preponderance of open or closed skills. D.P.E., 1977, 101 p. (W. Sullivan)

The Ss (N=360) in this study were categorized according to sex, scholastic level (JHS, SHS, College), and sports participation (closed skill, open skill, non-participant). All Ss were tested for field dependence-independence (FD-FI) by measuring their performance on Oltman's portable rod-and-frame apparatus. The performance error scores were analyzed through a 2 x 3 x 3 factorial ANOVA and the Newman-Keuls multiple comparisons test. It was found that JHS Ss were sig ($p < .01$) more FD than SHS Ss. College Ss did not differ ($p > .01$) from JHS or SHS Ss. Ss who participated in sports with a preponderance of open skills were sig ($p < .01$) more FD than Ss who participated in sports with a preponderance of closed skills. Non-participants were sig ($p < .01$) more FD than the athletes. Female Ss were sig ($p < .01$) more FD than male Ss.

342. MILLER, Peter W. The influence of winning or losing a soccer game on aggression level. M.S. in Physical Education, 1977, 83 p. (E. Bilik)

Ss (N=56) were boys aged 9-12 who were participating in a youth soccer league. Of the 56 players 14 were winners, 14 were losers, and 28 were accomplices. Players were tested prior to and following the game on their aggression level measured by their willingness to deliver an electrical shock to their opponents. Diffs between the aggression levels of winners and losers were analyzed by the t-test which showed that the losers' aggression levels were significantly higher ($p < .01$) than the winners'.

343. NIMCHICK, Paul S. Attitudes of female collegiate swimmers towards male and female coaches. M.S. in Physical Education, 1977, 84 p. (B. Jensen)
Ss (N=71) for this study were varsity female collegiate swimmers from selected colleges. 35 Ss were coached by males and 36 by females. Attitudes of the swimmers toward 6 concepts was assessed by using the semantic differential scale. A 2 x 6 ANOVA with repeated measures on 1 factor was used to analyze the data which showed the swimmers to have a more positive attitude toward the concept, "How does your coach treat every member of your swim team?" than they did toward the concept, "What were your feelings when you approached your coach with a problem?" The swimmers were more positive toward male coaches than female coaches regarding the coaches' authority and their willingness to put in extra time to help the swimmers.

344. RAMIREZ-PICADO, Marta E. Differences between augmenters and reducers when performing a gross motor coincidence-anticipation task. D.P.E., 1977, 154 p. (E. Seymour)
The Ss for this study were junior and senior college students who were classified as augmenters (N=19) or reducers (N=19). Each S was tested on a coincidence-anticipation task under 2 speed conditions and 2 distance conditions. The exp design was a 2 x 2 x 2 mixed factorial with repeated measures on 2 of the 3 variables. ANOVA was used to analyze both CE and VE scores. The results indicated no diffs in performance between augmenters and reducers. Performance of the Ss was better at the slow speed and short movement conditions than at the fast speed and long movement conditions according to CE scores. There were no diffs in the VE scores. Only 1 of the 4 interactions was sig ($p < .05$), that between speed and distance, according to the CE scores. None of the interactions were sig ($p > .05$) when considering the VE scores. No relationship was found between the Ss' scores of the visual aftereffect test and their CE scores from all of the 4 treatment conditions.

345. SCHEFFEL, Vernon L. The attitude of Seventh-day Adventists toward competitive sports in Seventh-day Adventists academies. D.P.E., 1977, 127 p. (E. Seymour)
Ss (N=595) were members of the Seventh-day Adventist church in the US and were subgrouped as academy students, academy faculty, ministers, educational leaders, church leaders, laymen and PE teachers. They were tested for their attitudes toward types of competitive sports and toward competitive

settings. The design was a 3 factor ANOVA. Analysis revealed that students, PE teachers and laymen have more favorable attitudes than faculty, church leaders, educational leaders, and ministers. Combative sports are the least acceptable while distance-speed sports are the most acceptable. Competition in PE classes and intramurals is more acceptable than competition with other schools. Attitudes vary from sports' setting to sports' setting.

346. SCHUMAKER, Elizabeth. Desirability of utilizing behavioral objectives for evaluating interscholastic athletic programs. M.S. in Physical Education, 1977, 66 p. (J. Parks)
The data for this study were collected during interviews with 17 ADs of secondary schools in Mass. A questionnaire was used in the interview to collect the data which was either reported by means of descriptive statistics or analyzed by X^2. As a result of the analysis it was found that the ADs accepted athletics as an integral part of education and believed that athletic programs should conform to general education objectives. Athletic programs lacked an evaluation process which is systematic and designed to produce specific information. 35% of the athletic programs lacked a functional set of objectives. The ADs perceived objectives stated in behavioral terms to be an appropriate way to state program objectives.

347. SCUDDER, Warren W. A study of a physical training program and self concept change in alcoholics. M.S. in Physical Education, 1977, 87 p. (J. Parks)
Ss for this study were 28 alcoholics, ages 21 to 57, who had voluntarily entered a 60-day physical training program. 15 Ss were in the E group and 13 in the C group. All Ss were administered the TN Self Concept Scale and the Cotten Sub-Max Step Test before and after engaging in their respective programs. The programs lasted 1 hr, 3 times per wk for 8 wks. ANCOVA showed that the cardiovascular training program had no effect upon total self-concept. Physical fitness level was improved as the result of participation in the program.

348. SHARPE, James. Football grant-in-aid scholarships in relation to win-loss records in four selected athletic conferences, 1963, 1968, 1973. M.S. in Physical Education, 1977, 100 p. (J. Parks)
Data for this study were obtained by questionnaire from athletic personnel in 4 Division I athletic conferences; ACC,

BIG TEN, PAC 8, and the Southeastern Conference. Other data were obtained from the official NCAA football guides, 1963-1973. Data for the years 1963, 1968, and 1973 were treated by % analysis and rho. It was found that, in general, need was not a factor in the awarding of football grants-in-aid. A greater number of grants-in-aid are given to football players than to athletes in any other single sport. The correlations between the won-loss % and the no. of scholarships granted within each conference were low with one exception. In the PAC 8, in 1968, rho = -.93. It was concluded that success, in terms of winning, is not dependent upon the number of grant-in-aid scholarships awarded.

349. SHATTUCK, Alden M. A comparison of playing surfaces and performance of intercollegiate soccer teams. M.S. in Physical Education, 1977, 53 p. (F. Tyson)
Data for this study were the won-loss records of intercollegiate soccer teams (away matches only) during the 1974, 1975 and 1976 seasons which were classified according to 2 variables: type of turf to which the team was accustomed (artificial or natural) and type of playing surface (artificial or natural). ANOVA showed no diff ($p > .05$) between teams accustomed to playing on artificial turf and teams accustomed to playing on natural turf. However, it was found that a team's performance is adversely affected when playing on an artificial surface to which it is unaccustomed.

350. SMYTH, Gilman. A comparison of two scoring methods in ice hockey. M.S. in Physical Education, 1977, 38 p. (A. Kidess)
Ss were 14 ice hockey players from a college team in CAN. Each S had 24 shots under each of 4 conditions which were slap shot from 15-20 ft, snap shot from 15-20 ft, backhand shot close to the goal, and forehand shot close to the goal. Analysis of the data showed the close-to-goal shots to be more effective than the shots from 15-20 ft in scoring goals. The snap shot was more effective than the slap shot and the backhand shot was more effective than the forehand shot.

STANFORD UNIVERSITY (John E. Nixon)
STANFORD, CALIFORNIA

351. DUBOIS, Paul E. The effect of participation in sports on the early occupational attainment of male former college athletes. Ph.D. in Physical Education, 1976, 116 p. (J. Nixon)
The belief that sports participation can serve as a stepping

stone to later occupational success was investigated. The athletes studied consisted of the entire population (N=160) of senior males from the 3 San Francisco Bay area state universities. A comparison group (N=450) of senior male non-athletes were randomly selected from the same institutions. Data were gathered via mailed questionnaires; the response rate on the questionnaires for the athletes and non-athletes was 60% and 68%, respectively. Multiple R was used to analyze the effect of the test variable athletic status on the dependent variables occupational prestige and earnings. Control variables included EDUC, Fa's occup prestige, age, ethnicity, GPA, and yrs work exp. The analyses indicated that athletic status had no sig effect ($p > .05$) on the dependent variables on 6 of the 7 hypotheses tested. Only nonteam sport athletes had a sig effect ($p < .05$); this effect was negative and applied only to occupational prestige. It was concluded that, for the type of athletes investigated, little support can be given the belief of sports as a stepping stone to later occupational success.

STATE UNIVERSITY COLLEGE AT BROCKPORT (M. Puthoff)
BROCKPORT, NEW YORK

352. BERNFIELD, John. Effect of stroke rate on the velocity/time curve of a rowing shell. M.S. in Education, 1977, 90 p. (T. Martin)

The 1976 US Olympic 8 oared crew was filmed (16 mm, 70 FPS) rowing 6 trials each at stroke rates of 37, 39, and 41 st/min. Shell instantaneous velocity was calculated and plotted for positions throughout the stroke cycle and a cubic spline curve fit to these data points. Time and % of total time for leg drive, upper body drive, transition, hands and upper body away, seat movement, and blades to water phases of the stroke cycle were determined. In addition, actual stroke rate, boat average velocity, and curve amplitude were calculated for each trial. Data was ranked by stroke rate and average velocity and a correlation matrix constructed to examine the relationships between variables. Minimum shell velocity occurred approximately 27% into the leg drive phase and max velocity was reached during the middle of the seat movement phase. Average shell velocity was found to be positively related to stroke rate ($r = .66$). Data analysis indicated that boat average velocity was increased by spending more total time exerting force with the legs, and was related to a rapid acceleration of power during the drive phase and a decreased time for recovery.

353. GOLDEN, Gary J. The reasons for consumption and nonconsumption of alcoholic beverages by residence hall students at State University College at Brockport. M.S. in Education, 1977.
A questionnaire survey was mailed to a 15% simple random sample of residence hall students. Over 68% (383 students) of the total group surveyed responded to the questionnaire. The study revealed that 95.8% of the students were consumers of alcoholic beverages and 4.2% abstainers. There was no sig diff between the % of male and female consumers of alcoholic beverages. Over 84% of both male and female students reported using alcoholic beverages at least 1 time a mo. There was a large variation in the quantity of alcoholic beverage consumed according to the type of beverage and sex of the drinker. The study demonstrated that moderation in consumption of alcoholic beverages is the general rule. Just under 70% of the males and 77% of the females were classified as moderate drinkers or less. There was no sig diff found in reasons related to abstaining for male or female students. Over 91% of the drinking population stated that they consumed alcoholic beverages because of enjoyment of taste. The data generated by the study supports recently reported trends of an increase in the consumption of alcoholic beverages by college students. Also, there are not great diffs in the consumption patterns of male and female students.

354. KELLY, Luke E. The effects of three auditory frequencies on the performance of a sound localization motor task. M.S. in Education, 1977, 68 p. (R. French)
Due to the lack of research regarding the quality of auditory cues used in devices for the visually impaired, the present investigation studied the effects of 3 diff frequencies (1,000 Hz, 2,000 Hz and 3,000 Hz) on the performance of a sound localization motor task in the absence of visual cues. The sample consisted of 58 normal male and female 6th grade students who had achieved criterion performance on a pre-test for throwing accuracy. The exp task was performed blindfolded and involved throwing 5 test balls in an underhand action at a target with each of the 3 diff auditory cues. The sequency of the 3 auditory cues was randomly determined for each S. The results indicated that the 2,000 Hz and 3,000 Hz frequencies were better than the 1,000 Hz frequency for localization and that none of the frequencies used enhanced performance consistency over the others. The accuracy results showed that the 1,000 Hz frequency was perceived as being closer and as frequency increased (2,000 Hz - 3,000 Hz) the sound was perceived as being farther away. It

is recommended, based on the present results that auditory devices that are used to aid the visually impaired in PE activities involving sound location and accuracy performance should use frequencies of 2,000 Hz and 3,000 Hz in preference to the 1,000 Hz frequency.

355. McCARTHY, KEVIN. The effect of proprioceptive feedback and knowledge of results on motor performance. M.S. in Education, 1976. (S. Vanderstoep)

Several implications derived from Adams' (1971) closed-loop theory of motor learning were tested using a motor task involving temporal accuracy. 2 levels (high or low) of proprioceptive feedback were studied as sources of response produced feedback during acquisition trials with KR present. Change or no change of feedback conditions was studied in conjunction with the presence or absence of KR after an extensive acquisition phase. The exp design was a 2x2x2x6 design with repeated measures on the last (trials) factor; resulting in 8 groups with 10 Ss per group. The response studied was a 10-in. linear displacement of the right arm that was to take exactly 2 sec. Performance at the end of acquisition was not differentiated on the basis of the level of proprioceptive feedback. Performance after KR withdrawal was maintained when feedback conditions were unchanged regardless of amount of feedback. A change of feedback conditions coupled with KR withdrawal resulted in a marked deterioration in performance. A change of feedback conditions in the presence of KR enabled the level of performance to be maintained. The results were interpreted in support of closed-loop view of motor learning and performance, but not in complete support of Adams' (1971) theory.

356. McELROY, Eileen. The relationship between teacher enthusiasm and student involvement during motor skill activities. M.S. in Education, 1977, 61 p. (R. Hurwitz)

Due to the presumed effects a teacher's enthusiasm (TE) has upon a student, and the importance of student involvement (SI) in an activity, this investigation studied these behaviors as they occurred in the PE setting. 2 specifically designed descriptive-analytic coding systems were developed appropriate to the target behaviors. The Ss were 5 PE teachers and a randomly selected student from 1 of each of their classes. The Ss were video-taped, with a separate camera for each teacher and student. 3 coders per system were trained until at least 80% inter-coder reliability was attained. The coders then coded the video-tapes and mean scores for each teacher and student were computed. 3 relationships between teacher enthusiasm and student involvement were investigated (TE 10 secs prior to SI; TE 30 secs prior to SI; and TE every 10 secs during SI). Sig diffs were not found in 4 of the 5 teacher-student pairs. A sig negative _r_ was found between TE and SI in 1 teacher-student pair, as they were studied in each of the 3 associations. It is recommended that further research be conducted to establish additional tools to study teacher and student behaviors as they occur during the teaching-learning process.

357. TURNER, Bruce. The effects of proprioception and extended practice sessions on anticipatory timing. M.S. in Education, 1977. (B. Shultz)
Utilizing arm velocity to generate varying levels of PFB, various aspects of the body's timing mechanism were researched. Performance on a coincident timing task was studied with and without KR over a 4-day period. The exp design consisted of 3 groups, 25 Ss each, receiving either high, low or zero amounts of PFB. The response was a right hand timing task preceded by a PFB generating left hand movement. The results indicated that PFB provided for more accurate and consistent responses. Increased levels of PFB resulted in sig more consistent responses, and in more accurate responses. Accuracy responses were sig between the movement group and control group, but not between movement groups alone. The groups receiving KR were sig more accurate than the NKR group but no diffs were revealed for KR and NKR groups for VE. The potential formation of a perceptual trace during KR trials may have allowed for greater consistency once KR was withdrawn. Performance over days indicated that extended practice is necessary for the most effective use of PFB. The day factor also provided possible evidence for a 2-stage theory of timing in which both input timing and motor programming are utilized.

TEACHERS COLLEGE, COLUMBIA UNIVERSITY (B. Gutin)
NEW YORK, NEW YORK

358. BAILIN, Stuart. Prior exercise, mobilization of oxygen transport and circulorespiratory endurance. Ed.D. in Exercise Physiology, 1977, 81 p. (B. Gutin)
This study assessed the effects of varied levels of prior exercise (PE) which were designed to mobilize the O_2 transport system on endurance performance. HR was used as an estimate of mobilization of the circulorespiratory (CR) system. 2 studies were conducted, each using 20 volunteer male under-

graduate student-athletes from York College of CUNY. In study 1, PE was adjusted to maintain HRs of 110 (PE-110), 140 (PE-140) and 170 (PE-170) beats per min (bpm) for 5 mins. The 4th treatment was no PE. The CT included cycling for 10 mins against 3 kg resistance at 68 rpm. Results demonstrated that total work appeared to be greatest following PE-110. However, there was no clear-cut evidence to support the mobilization hypothesis. In the second study the PE intensity was increased gradually to the level specified for that treatment; the work intensities of the PE and CT were proportional to each S's max HR; and all exercise was done on a treadmill. The 4 6-min PE treatments were PE-55% of max HR, PE-65% of max HR, PE-75% of max HR and no PE, and were administered on 4 different days with the order counterbalanced according to 5 independently randomized Latin squares. A 30-sec rest interval separated the PE from the CT. Latin Square ANOVAs revealed no sig diffs in performance among treatments, and no sig diffs between max HR achieved with the different PWC treatments. HR data were analyzed with a repeated measures ANOVA for each 15 sec period of the CT. There were sig diffs in HR between the PE treatments throughout the 1st 6 mins of the CT. Multiple comparisons using the Newman-Keuls procedure illustrated that for the first 45 secs of the CT, HR was progressively higher in proportion to the intensity of PE. Beyond the 1st min, there were few sig diffs in HR following each PE treatment. Thus, although PE led to somewhat higher HRs during the first minute or so of the CT in both studies, this did not enhance performance as would be predicted from the mobilization hypothesis.

359. COSTELLO, John A. A descriptive analysis of student behavior in elementary school physical education classes. Ed.D. in Curriculum and Teaching, 1977, 120 p. (W. Anderson)

Approximately 40% (N=193) of the students in 20 videotaped ELE school PE classes from NY, NJ, and Conn. had their behavior coded according to the dimensions of the BESTPED observation system. Each S was observed for 3 separate 5 min segments of his/her class. Within the function dimension, or purpose of behavior, the Ss collectively spent 35.4% of their time waiting--either waiting in line or for a turn to practice or participate in a game. 25.4% of their time was spent receiving information, which generally involved listening to the teacher. In contrast, the Ss spent 29.4% of their time either practicing, game playing, exercising, or exploring. Results indicated that there was a large variability in the time classes spent in the most predominant functions. In the mode dimension, Ss spent slightly less than 33% of their time in non-movement behavior and about 25% of their time in movement which involved participation in PE activities. Results also indicated there was a large variability in the time classes spent in movement. In terms of content, the Ss spent the largest portion of their time (29.1%) in sports and games and very little time (0.2%) in movement education activities.

TEXAS A&M UNIVERSITY (L. J. Dowell)
COLLEGE STATION, TEXAS

360. BARTEE, Horace H. A cinematographical analysis of twisting about the longitudinal axis when performers are free of support. Ph.D. in Physical Education, 1977, 141 p. (L. Dowell)

Variables associated with twisting were analyzed cinematographically to determine if longitudinal rotation could be initiated once free of support with and without prior transverse rotation. 3 divers performed 7 diff dives from a 7½m platform. The dives ranged from jumping feet 1st, jumping and piking, and various degrees of backward and forward transverse rotations before the initiation of twisting maneuvers. It was found that skilled divers can twist once free of support and without outside force. The arms were necessary for the initiation of effective twisting, but their use did not insure twisting. Skilled divers transfer rotation from the transverse axis to the longitudinal axis, and the greater the transverse speeds the more effective the twisting speeds. Greater twisting speeds occur when prior transverse rotation is established from a pike position rather than a layout position. Only 180° of twisting could be executed without transverse rotation unless followed by another action.

361. COLFER, George R. A cinematographical comparison of three selected field goal place kicking styles. Ph.D. in Physical Education, 1977, 166 p. (J. Chevrette)

3 highly skilled field goal place kickers were used to compare certain variables in their respective styles. A high speed Locam and 2 H-16 Bolex cameras were utilized in the filming of the kicks. A wind anemometer registered the wind velocity for each kick. A 14 x 14 foot grid, body markings and ball markings provided reference points during the film analysis which was accomplished with a Vanguard Motion Analyzer. It was found that the European soccer style and the innovative

style showed more similarities in techniques utilized than the American toe kick style. The innovative style kicker contacted more surface area of the ball, generated greater kicking foot velocity and less rotary velocity while attaining greater actual and hypothetical distance. The toe kick resulted in less initial velocity and a 5-8° higher angle of projection. The innovative style was more efficient than the other styles studied. The path of the ball did not follow a parabola for any style.

362. GREGORY, William B. The development of a skill achievement test for beginning skiers on an artificial surface. M.S. in Physical Education, 1977, 127 p. (L. Dowell)
73 randomly selected beginning skiers were tested with a 16-item test battery which was composed of suggestions from selected expert skiers. rs between the subjects' scores on the 16-item battery and the total test scores resulted in the highest values. 6 items were selected from a cluster analysis as representative of the most divergent skills. 5 of these items constituted the final test battery. Test reliability was determined by a test-retest of the initial Ss. Additional Ss (N=208) were evaluated with the final battery to establish norms. Test validity was determined by comparing the expert evaluation of 87 Ss with the final test battery score. The X^2 test indicated a "goodness of fit" between the 5 final test items and corresponding items on the preliminary test. Statically performed skill maneuvers did not correlate with downhill turning ski maneuvers, just as most of the static items failed to have a statistically significant r with the preliminary total test score.

363. MAYS, Benita B. The effectiveness of a self-instructional package for teaching continuous flow analysis in medical laboratory technology. Ph.D. in Allied Health, 1977, 150 p. (L. Ponder)
The purpose was to plan, produce and determine the effectiveness of a self-instructional package designed to introduce the concept of Continuous Flow Analysis and the use of the Sampler module of the Basic Auto Analyzer to medical laboratory students. The developmental stages of the package were: development of objectives, selection and production of materials and formative evaluation. The completed package included an available programmed manual with 3 researcher-developed videotapes and a student guide.

364. MISTRY, Fulvantiben D. A comparison of medical technology students, non-medical technology students and professional medical technologists in terms of work values and personality orientation. Ph.D. in Allied Health, 1977, 124 p. (L. Ponder)

The Work Values Inventory (WVI) and the Personal Orientation Inventory (POI) were administered to professional medical technologists, clinical yr medical technology students, pre med technology students, drop-out med technology students and non-med technology students to determine if work values and personal orientation diffs existed. When subjected to discriminant analysis the data yielded sig univariate F-ratios for all scales of both inventories. A comparison of the medical technology students to the non-medical technology students revealed a sig diff in terms of work values and personal orientation scales.

365. NEWCOMB, Connie K. Attitudes of female athletes toward their male and female coaches. M.S. in Physical Education, 1977, 62 p. (M. Little)

A questionnaire was administered to 129 college female athletes concerning their attitudes toward their female coach & male coach. Each response could be recorded on a scale of 5 to 1. The Kolmogrov-Smirnov 1 sample test was used to determine a sig preference in the athlete's attitudes toward their coach. It was found that the female athletes shared similar attitudes toward male and female coaches. Neither coach was considered a parent figure but more often a good friend. Neither coach was considered to have much influence on the athlete's personality. The athletes respected the female coach more as a person and expressed that it was easier to approach the female coach with personal problems. The male coach motivated the athletes more than the female coach. Both coaches rated very high on determination, dedication and enthusiasm and were similar in their ability to teach. While the athletes had no preference as to who coached them, they felt the female coach created a more positive image for women's sports.

366. TITLOW, Larry W. Comparative effects of isometric, isotonic and isokinetic training on strength maintenance. Ph.D. in Physical Education. 249 p. (L. Dowell)

80 volunteer male Ss were matched and randomly assigned to exp groups. The isotonic group trained using the DeLorme-Watkins modified program; the isometric group trained using 6 8-sec max contractions; the isokinetic group trained using

12 max full arm curl reps on the Mini-Gym. Upon completion of a 3 day per wk 8 week training period the Ss were post-tested on the criterion measures. ANOVA and linear regression were utilized in analyzing the data. Analysis revealed no diffs between groups on max strength, serial strength and strength maintenance. Pre- and post-test diffs were found on the criterion measures. Max strength increases were accompanied by serial strength gains and improved strength maintenance for isometric and isokinetic max and isometric area. Strength maintenance was found to be linear in nature.

TEXAS WOMAN'S UNIVERSITY (Marilyn Hinson)
DENTON, TEXAS

367. BINGHAM, Sarah M. A biomechanical analysis of the vertical support scull in synchronized swimming. M.A. in Physical Education, 1976, 52 p. (M. Hinson)
A 16 mm camera was used to gather evidence of arm actions during the vertical support scull in synchronized swimming. The Ss were 2 nationally ranked adult women between the ages of 19 and 20. Specifically, the following factors were determined: the sequence of joint action in the arms, the range of movement of the arms, the actions of the hands, forearms, and upperarms, and the time involved in a complete sculling cycle. A mean sculling time of .690 secs of the 21 sculling cycles was analyzed. It was shown that the humerus is outwardly rotated and abducted in the frontal plane; then rotated inwardly as the forearms are moved into the sagittal plane and the elbows are drawn medially; the wrist is flexed at the same point in time when elbow flexion begins to increase; elbow flexion is 90° when the forearms are in the frontal plane and decreases to 160° when the forearms are in the sagittal plane; and the hands, as a result of the forearm movement, move from a supinated to a pronated position. The data suggest that the position of the upperarm and degree of elbow flexion are key components to efficient sculling support.

368. BREWER, Virginia. Possible relationship of pregnancy to collateral knee ligament stability. Ph.D. in Physical Education, 1977, 80 p. (M. Hinson)
Bilateral collateral knee ligament stability of gravid females, nullipara through para II, was assessed at approximately 30 and 38 wks gestation and at 3 and 6 wks post partum. A control group of nulligravid status had ligament tension measured at equivalent time intervals. The exp group (N=24) was comprised of pregnant women ranging in age from

20 to 33 yrs. Ss in the control group (N=10) were between the ages of 20 and 29 yrs. The Klein Mediolateral Collateral Knee Ligament Testing Instrument was adapted for adapted for use in assessing ligament tension. Statistical procedures applied to the data included a 3-way ANOVA with repeated measures on 2 factors. A sig ($p < .05$) decrease in collateral knee ligament tension and/or stability was found in the gravid groups from the last trimester of pregnancy to 3 and 6 wks post partum. The major decrease in tension of these ligaments (30.73%) was found to occur between 38 wks gestation to 3 wks post partum. The duration of the changes observed remains the subject of future research.

369. CORNELIUS, William L. The relationship between isometric contractions of hip extensors and subsequent flexibility in males. Ph.D. in Physical Education, 1977, 97 p. (M. Hinson)

Support was provided for the influence of the independent variable MVIC on subsequent measures of passive, static flexibility PSF). A sample of university males (N=30) from beginning PE classes were screened. By using the Leighton Flexometer and a Newport Laboratories integrator, Model 100, it was possible to observe characteristics of the dependent variables of flexibility and IEMG measures during a PSF maneuver. 2 flexibility methods were used: passive flexibility maneuver-MVIC of the agonist-PSF maneuver (PI) and passive flexibility maneuver-MVIC of the agonist-concentric contraction of the antagonist-PSF maneuver (PIC) of the hip joint. Each S was given 3 trials for each of 6 treatments. Measures were taken at the terminal position of hip flexion. Positive but low rs (.235 to .539) were obtained for intertrial reliability among IEMG baseline measures; high rs (.881 to .907) were obtained for flexibility. 2 sets of data, flexibility and IEMG, were submitted to 1-way ANOVA with RM. Flexibility data indicated sig among treatments ($p < .05$); no sig was found for IEMG data. Subsequent tests of the flexibility data showed that PSF increased when preceded by 3 and 6 sec MVIC, and when preceded by 0, 3, or 6 sec MVIC with a following concentric contraction (PIC).

370. DAVIS, Sandra L. Relationship between ballet background and gymnastic performance. M.A. in Physical Education, 1977, 75 p. (J. Rosentswieg)

An 8-week gymnastic instruction period was given to freshman and sophomore HS girls (N=26) who were then videotaped performing beginning, compulsory gymnastic routines. 12 of the Ss had received a minimum of 15 mos ballet instruction while the other 14 received no previous dance instruction. Qualified gymnastic judges rated each S's performance according to NAGWS standards. Descriptive data as well as ANOVA were derived from the collected data of raw scores received by Ss on floor exercise, uneven-parallel bars, balance beam and total performance. Sig diffs were found between the ballet and non-ballet groups on floor exercise, balance beam and total performance ($p < .01$). These diffs favored the dance trained group over those who have not received dance training.

371. ENGLER, Loyce A. The influence of isokinetic strength training on the swimming speed of high school swimmers. M.A. in Physical Education, 1977, 50 p. (J. Rosentsweig)
An 8 wk isokinetic strength training program designed to increase swimming speed was administered to 14 SHS swimmers, 9 males and 5 females. The Ss of the control group (N=14) and the exp group (N=14) were timed in the 50 yd freestyle as a pre-test and post-test. The data collected were analyzed by a 2-way ANOVA with repeated measures and Scheffe's subsequent test of $\bar{X}$ variance. It was found that when sex of the Ss was not considered a sig greater increase in swimming speed occurred in the exp group as compared to the control group. When Ss were analyzed according to like sexes, a sig greater increase in the swimming speed of the exp group did not occur.

372. LOVE, Phyllis A. Remediation of collateral knee ligament looseness by isometric exercises in females with defined ligament variability. Ph.D. in Physical Education, 1977, 153 p. (J. Rosentswieg)
Female volunteers (N=56) met a criterion state of variability of the medial or of the lateral collateral knee ligaments; one standard deviation above the mean from a pilot study of 73 females. On the basis of the pre-test (181 Ss screened), 3 major groups were formed according to the criterion state of variability: medial group (MG), consisted of those subjects who met the criterion of excess variability for 1 medial ligament; lateral group (LG), for those with 1 lateral ligament; and bilateral group (BG), for those with both lateral ligaments. The exp treatment was randomly assigned to form 3 exp and 3 control sub-groups. Each of the exp sub-groups performed an exercise designed for their respective ligament. The exercises were performed for 8 wks, 5 days a wk in the Human Performance Laboratory and 2 days a wk at home. The task required 3 bouts of 6 reps, each held 10 secs

with a 5 sec rest between reps. The data collected on the completion of all post-tests were treated with either a 1-, 2- or 3-way ANOVA with repeated measures. The data revealed that the isometric exercises were successful in increasing tension for those Ss with 1 loose ligament, but not for those with 2 loose lateral ligaments.

373. LOWRANCE, Barbara. A comparative study of isotonic, isometric, and isokinetic exercise on reduction of abdominal girth. M.A. in Physical Education, 1977, 67 p. (J. Rosentswieg)

Volunteer students (N=43) enrolled in PE classes were randomly placed into 4 groups: isotonic, isometric, isokinetic, and control for exercise programs 5 days per wk, over an 8 wk period. The gulick anthropometric tape was used for measuring circumferences at the waist and hips. Skinfolds were measured on the right side of the body at the iliac crest, triceps, and anterior abdominal wall with the Lange Skinfold calipers. Quantitative data on the variables collected were treated by ANOVA with repeated measures. The Sheffe test was applied to the data when sig diffs were obtained. It was found that the exp and control groups did not differ on any of the measurements, indicating that the treatment did not have a differential effect upon the 4 groups. The significant F value for within trials illustrated that a change occurred over the exp period.

374. MARTI, Martha S. Musical accompaniment for dance: Preferences of dance and music students. M.A. in Dance and Related Arts, 1977, 59 p. (J. Rosentswieg)

Students from the HS for the performing and visual arts, in Houston, TX, were studied to determine if there was a sig diff in proportionate distribution of the expressed preference of dance (N=66) and music students (N=59) with respect to 4 musical accompaniments for a specific dance composition. The 4 musical styles were Baroque, Impressionistic, Twentieth Century, and Electronic. The Ss viewed a 16 mm color film in which a 90 sec nonliteral dance composition was shown 4 times, each with a diff musical accompaniment. A Likert-type scale was used to rate each of the 4 selections. The X^2 test was the statistical tool employed for the analysis. It was concluded that the music and dance students respond in a diff manner when selecting an overall preference for musical accompaniment for dance.

375. O'CONNOR, Claudia A. Values of venereal disease patients. M.A. in Health Education, 1976, 69 p. (D. Merki)
A study was conducted to determine and compare the basic personal and social values of 60 Negro female patients in the 19 to 24 age bracket in the Dallas City Health Dept VD Clinic. The Rokeach Value Survey was used to determine values of 1st-time and repeater patients. The Median test was used to determine the statistical diff in value rankings of the 2 groups, ($p < .05$). The instrumental value "Honest" was the 1 value that was demonstrated sig. On some specific values there were diffs ($p < .1$; $p < .2$). Some values ranked high while other values ranked low with both.

376. ROUTON, J. Randy. A comparison of asthmatic and non-asthmatic children on measures of self-concept and attitudes toward physical education. M.A. in Therapeutic Recreation, 1977, 239 p. (C. Sherrill)
This investigation examined diffs between asthmatic (N=50) and non-asthmatic (N=741) children on self-concept and attitudes toward PE. 3 instruments, The Way I Feel About Myself Self-Concept Scale, the Children's Attitude Inventory Toward Physical Education, and the Game of Pairs (a paired comparison inventory of school Ss), were administered to the 4th, 5th, and 6th grade children at 3 of the 7 ELE schools in the Denton, Texas, Independent School District. Asthmatic and non-asthmatic children demonstrated no sig diffs on the measures of self-concept and attitudes toward PE. It was noted that both groups expressed favorable attitudes toward PE.

377. SCHNEIDER, Michael. Intensive physical conditioning program for asthmatic children and changes in selected pulmonary measures. M.A. in Adapted and Developmental Physical Education, 1977, 60 p. (J. Rosentswieg)
The investigation entailed a study of the changes in selected pulmonary responses of 7 medically determined asthmatic children who participated in a physical conditioning program as compared to 7 asthmatic children who did not participate. A 2-way ANOVA with repeated measures was calculated for the data from each test with the Scheffé Test used for subsequent comparisons. The ANOVAs revealed no statistically sig diffs between the pre-tests and post-tests with respect to VO_2, 50% PWC, FEV_1 at rest, FEV_1 50% PWC, and RAW at rest. There were sig diffs between the test data for FEV_1 after max PWC, VO_2, and RAW after a 50% PWC. Pre-test and post-test data were also compared for scores obtained on selected physical

fitness tasks performed by the exp group. A t-test of related means revealed statistically sig diffs for a modified step test, a shuttle run, a 12 min run, and a 50 yd free style swim. The results from this study suggest value in physical fitness for children with asthma.

UNIVERSITY OF ALBERTA (S. M. Dupless)
EDMONTON, CANADA

378. BOTTERILL, Calvin B. Goal setting and performance on an endurance task. Ph.D. in Physical Education.

379. BORYSYK, Lawrence M. The effect of active and passive warm-up on plasma free fatty acid concentration. M.S. in Physical Education.

380. CLEE, Martha J. A cross-modality matching study to investigate associative mechanisms. M.S. in Physical Education.

381. ELLIOTT, Allen G. A biomechanical investigation of muscular work. M.S. in Physical Education.

382. FRANKS, Ian. Serial pattern learning of motor acts. M.S. in Physical Education.

383. GABORIAULT, Real J. Comparison of aerobic and anerobic training on glycogen depletion and enzymatic activity in skeletal muscle. Ph.D. in Physical Education.

384. GIBSON, William G. Self, leader and group in outdoor education: Value change through management of curricula by objectives. Ph.D. in Physical Education.

385. GILL, Stephen. The influence of two seasons of ice hockey on nine year old boys. M.S. in Physical Education.

386. GODIN, Gaston. Physiological responses to various ambient temperatures (4° to 40°C) during exercise. M.S. in Physical Education.

387. GRAVELLE, Lucien. Master coach and university swimmer: An ethnographic approach. Ph.D. in Physical Education.

388. HALL, Craig R. The influence of movement extent, movement range and response strategy on distance reproduction and recognition. Ph.D. in Physical Education.

389. INGLIS, Susan E. Effectiveness of two methods for teaching beginning tennis. M.A. in Physical Education.

390. JOBIN, Jean. The effect of anaerobic training of the metabolic pattern of skeletal muscle. Ph.D. in Physical Education.

391. Jones, Brian C. The effect of isokinetic training on the force-felocity relationship and maximal power in female forearm flexor muscles. Ph.D. in Physical Education.

392. KENDALL, Thomas J. The job satisfaction of physical education teachers in the Edmonton School System. M.A. in Physical Education.

393. KINGSTON, George E. The organization and development of ice hockey during childhood in the Soviet Union, Czechoslovakia, Sweden, and Canada. Ph.D. in Physical Education.

394. LEITH, Larry M. An experimental analysis of the effect of direct and vicarious participation in physical activity on subject aggressiveness. Ph.D. in Physical Education.

395. LOUW, Johannes N. Sport and social integration in South Africa. Ph.D. in Physical Education.

396. LUKE, William F. Effect of varied isokinetic training on force-velocity curves of the contralateral limb. M.S. in Physical Education.

397. MACKIE, Brenda G. Alterations in the developmental pattern of skeletal muscle fibre types in response to endurance and sprint training. M.S. in Physical Education.

398. NADEAU, Marcel. H and M muscle twitches of human soleus muscle subjected to strength training. Ph.D. in Physical Education.

399. NESS, Gary W. The role of glutamate-pyruvate transamination in repletion of citric acid cycle intermediates during electrical stimulation of isolated dog gastrocnemius muscles. Ph.D. in Physical Education.

400. PALMER, Denise. Attitudes toward the pursuit of games and pastimes in childhood, as portrayed by the authors of children's literature 1780-1855. Ph.D. in Physical Education.

401. SAWULA, Lorne W. The national physical fitness act of Canada, 1943-1954. Ph.D. in Physical Education.

402. SLIPP, Robert M. Physical work capacity along with muscular strength and endurance levels of intercollegiate hockey players. M.S. in Physical Education.

403. TANNIS, Geraldine H. Recognition memory for attributes in motor memory. Ph.D. in Physical Education.

404. THOMSON, Rex W. Sport and deviance: A subcultural analysis of rugby football. Ph.D. in Physical Education.

405. USHER, Peter M. A descriptive analysis of coaching behavior. Ph.D. in Physical Education.

406. WILKINSON, John G. Developmental and sprint training effects on fibre composition, protein, and nucleic acids in subcellular fractions of rat gastrocnemius muscle. Ph.D. in Physical Education.

UNIVERSITY OF ARKANSAS (George Moore)
FAYETTEVILLE, ARKANSAS

407. BARNES, Darvin E. Chronic and acute blood pressure, heart rate and metabolic response to a total isokinetic exercise regimen. Ed.D. in Physical Education, 1977, 91 p. (G. Moore)

33 male volunteers between 18-25 yrs of age were randomly assigned to 1 of 3 groups. 1 group (N=10) exercised using the double isokinetics Apollo 5 exercise. Another group (N=10) exercised using a double isokinetic Apollo 5 exercise. A 3rd group (N=8) acted as a control and did not participate in any regular exercise program during the 10 wk training period. Each exp group performed 10 reps of the isokinetic exercise 5 days per wk for 10 wks. Each S was tested for

total body fitness prior to and immediately following the training period. At wks 1, 5 and 9 each S performed the exercise routine inside an electrically shielded chamber with a series of physiological measures recorded during the rest, static, and dynamic phases of the exercise and during recovery. Measures taken were BPs, HR and VO_2. Statistical procedures included the dependent t to discern changes within the groups and ANOVA to indicate diffs between groups. Results indicated both forms of isokinetic exercise were sufficient to affect favorable changes in body fitness and that the static-dynamic isokinetic exercises caused sig higher BP values than did the dynamic-dynamic isokinetic exercises.

408. BATESKY, James A. The effects of hemoglobin supplements upon maximal oxygen uptake. Ed.D. in Physical Education, 1977, 93 p. (G. Moore)

The study ascertained the effectiveness of 800 mgs of bovine hemoglobin supplements daily for 8 wks upon max VO_2 of male track athletes. A secondary objective was to determine the predictability of S's max VO_2 score from his blood chemistry profile. Ss were 16 long and middle distance runners from UA track team divided into exp and control groups on the basis of matching individuals. The exp group received the bovine hemoglobin supplement for 8 wks. The control group did not receive supplements or placebos. Both groups maintained normal training schedules (long distance 115 miles per wk and middle distance 25 miles per wk) and participated in 7 meets during the 8 wks of the study. The blood chemistry profile consisted of analyses for hemoglobin, hematocrit, sugar cholesterol, triglyceride, serum iron, total iron binding capacity, albumen, and protein. Values were obtained before and wkly throughout the study. Max VO_2 was determined before and after the exp period. ANOVA was used to compare exp and control groups and dependent t to compare pre and post measures within groups. Stepwise multiple regression was used to predict post max VO_2 from blood chemistry profile. Conclusions were: 800 mgs of bovine hemoglobin daily for 8 wks does not sigly affect max VO_2 or blood chemistry profiles of male varsity track athletes. Endurance training causes a decrease in hemoglobin concentration and an increase in albumen concentration. The 9-variable blood chemistry profile is not able to accurately predict the post max VO_2.

409. MICHELE, Ralph P. Development of a battery of tests to predict football ability at the college level. Ed.D. in Physical Education, 1977, 118 p. (G. Moore)

The study explored the possibility of developing a regression equation whereby football ability could be predicted from an analysis of selected anthropometric measures, strength tests, power measures, balance, standing height, and body wt. Ss were 56 scholarship football players at UA. 6 assistant football coaches, 3 offensive and 3 defensive, rated each offensive and defensive player, respectively. This rating on football ability was used as the criterion measure. Stepwise multiple regression and Polynomial Regression were utilized to form predictive equations. The equation by Polynomial Regression was: football ability = 787.65 + 7.33 (bow legs) - 143.52 (standing height) - 2.60 (tibial torsion) - 33.40 (horsepower) - 0.408 (body weight). $R^2 = .573$ and % standard error of the estimate was 15.7%.

UNIVERSITY OF BRITISH COLUMBIA (G. Sinclair)
VANCOUVER, BRITISH COLUMBIA

410. HALLIWELL, Albert A. Determination of muscle, ligament and articular forces at the knee during a simulated skating thrust. M.P.E. in Biomechanics, 1977, 190 p. (E. Rhodes)

A method for calculating the muscle, ligament and joint forces at the knee was employed. Force platform and 16 mm. cine film records were obtained for 15 simulated skating thrusts made by an experienced ice hockey player. Orthogonal forces and moments imposed on the knee were determined from inertial, gravitational and reaction forces acting on the lower limb during skating thrust. Muscle, ligament and joint forces were determined from equations of joint equilibrium reduced to determinancy with synchronized EMG records. Forces were calculated for hamstring, quadriceps and gastrocnemius muscle groups, collateral and cruciate ligaments. Articular joint force, joint torque and the centre of pressure of the joint force were also determined. Results indicated that the temporal sequence of forces acting at the knee in skating was comparable to forces developed when walking upstairs. The quadriceps exerted the greatest contractile force of 650 lbs. while gastrocnemius and hamstring forces were much smaller. The largest ligament forces of 200 lbs. plus were developed in the collateral ligaments. Joint forces in excess of 6 times body wt were superimposed on joint torques of 700 lb.-in. Mediolateral stability was not critical with shear forces less than 0.50 times body wt. developed.

411. LEECH, Maureen I. The joint effects of task complexity and response probability on response latency: A test of the existence of a defensive strategy in a two-choice reaction time task. M.P.E., University of British Columbia, 1978, 98 p. (R. Schutz)

The main purpose of this study was to determine if Ss would employ a defensive type strategy in a 2 choice RT task using tasks of unequal response complexity. The methodology used to investigate this problem involved examining the joint effects of 2 levels of task complexity and 8 levels of response probability on response latency in 1 simple and 7 choice experimental conditions. The exp task was a discrete, 2-choice RT task, in which Ss were required to depress several response keys in a predetermined order following the onset of 1 of 2 possible stimulus lights. 2 tasks of varying complexity were used: a simple task involving 2 response keys only, and a complex task requiring the depression of 5 response keys in a specific order. Probability levels of 1.0, .90, .75, .60, .50, .40, .25, .10 provided 8 exp conditions under which the 2 tasks were performed. The empirical results did not provide support for the predicted hypotheses. Results for both tasks illustrated a classical probability effect, i.e. an increase in probability results in a decrease in response latency, contrary to the predicted results for tasks of unequal complexity. However, the extreme probability levels of .90 and .10 had a marked effect on the response latency for both tasks with the simple task showing greater variability than the complex task due to these probability levels. Data from this experiment tended to support the premise that response probability is a decreasing function of task complexity, i.e., the more complex the task the less effect response probability has on the resulting response latency.

412. SCHULTZ, Terry D. The effect of antecedent muscle tension levels on the performance of selected motor activities. M.P.E., University of British Columbia, 1977. (R. Schutz)

The general purpose of this thesis was to determine whether future research involving EMG biofeedback as a pre-competition muscle relaxation technique for competitive athletes was warranted. More specifically, the goals were to determine if there were increases in the muscle tension levels of competing athletes prior to competitive events, and to determine whether such increases could affect the performance of motor tasks. In exp. 1 the muscle tension levels of the right forearm flexor and quadricep muscle groups of 10 collegiate wrestlers were monitored prior to a competitive event. There was a sig increase in the levels of muscle tension of the right forearm flexor group. In exp 2 Ss were asked to reproduce these increases in muscle tension with the aid of EMG biofeedback prior to the performance of 3 motor skills. It was discovered that such increases in muscle tension disrupted the performance of both the hand-steadiness and grip-strength tests. Thus, competitive athletes do have elevated pre-competition levels of muscle tension which may disrupt some kinds of motor performance. The present results, therefore, suggest that future research involving EMG biofeedback as a pre-competition muscle relaxation technique for competitive athletes is warranted.

413. THOMAS, Gregory C. The relationship between personality and performance of Canadian women intercollegiate basketball players. M.P.E., 1977, 85 p. (G. D. Sinclair)

The Athletic Motivation Inventory (AMI) and the Cattell Sixteen Personality Factor Questionnaire (16 PF) were administered to 56 female basketball players participating in the Canada West University Athletic Association. F ratios for the multivariate test of equality of mean victors were computed between the sub-group (regulars vs substitutes and winning teams vs losing teams) personality profiles. Univariate analyses of variance between individual personality traits were also computed. The results did not identify a specific female basketball personality profile or a diff between either regular and substitute players or winning and losing team players. It was also concluded that the AMI was not a more sensitive instrument than the 16 PF in the psychometric assessment of athletes.

UNIVERSITY OF COLORADO (Dale Mood)
BOULDER, COLORADO

414. CLOYD, Mary. Kinesthetic discriminability in cerebral palsied adults. M.S. in Physical Education, 1977, 47 p. (J. Hall)

415. DANKO, Bette. The effects of overloading the muscle glycogen stores on the physical work capacity of men swimmers. M.S. in Physical Education, 1977, 86 p. (E. Haymes)

416. DEESE, Robyn. The effects of two different methods of tennis instruction on the self-concept of college aged students. M.S. in Physical Education, 1977, 81 p. (J. Fowler)

417. LEIMER, Carol. Response latency as a function of preparedness and task complexity. M.S. in Physical Education, 1977, 44 p. (J. Shea)

418. MORGAN, Robyn. The effects of intertask interference on the immediate and delayed retention and transfer of motor skills. M.S. in Physical Education, 1977, 108 p. (J. Shea)

419. NICHOLSON, John. Graeco-Roman athletics in classical antiquity. M.S. in Physical Education, 1977, 135 p. (C. Edmondson)

420. QUINN, John. The effects of distance versus location movement cues on kinesthetic discriminability. M.S. in Physical Education, 1977, 61 p. (J. Shea)

421. RADOCY, Robert. The effects of voluntary rhythmic breathing upon relaxation. M.S. in Physical Education, 1977, 66 p. (M. Banks)

422. RITTER, Leonard. An attitudinal study of Colorado skiers: An evaluation to determine how people define themselves through the leisure activity of skiing and work. M.S. in Physical Education, 1977, 58 p. (M. Banks)

423. ROSE-HYVONEN, Pauline. A kinematic analysis of selected side horse vaults using cinematography. M.S. in Physical Education, 1977, 69 p. (E. Haymes)

424. TALLMAN, Martha. The effect of labeling on motor short term memory. M.S. in Physical Education, 1977, 60 p. (J. Shea)

425. TYERMAN, Mark. The effects of training on selected circadian rhythms. M.S. in Physical Education, 1977, 110 p. (E. Haymes)

UNIVERSITY OF FLORIDA (O. Holyoak)
GAINESVILLE, FLORIDA

426. ANDREWS, Karen I. Cardiac output in trained preadolescent swimmers and untrained normal children. M.A. in Physical Education, 1977, 65 p. (C. Zauner)
This study compared the mean cardiac output, VO_2, and pwc 170 of preadolescent swimmers as opposed to untrained but healthy children at rest and at 2 levels of exercise. 8 pairs of Ss ranging in age from 9 to 13 yrs and matched for age, sex, and body size were examined. A t-test for correlated means was used to determine sig of mean diffs observed between the 2 groups for all measured parameters at the 3 levels of metabolism. At a PWC 170, the swimmers' mean Q_c and VO_2 was sig greater in the swimmers than in the untrained Ss. Values for mean Q_c and VO_2 at rest and at submax exercise did not sig differ. A strong relationship was found between stroke volume and HR at 300 kgm/min for the trained group. The swimmers demonstrated a sig relationship between power and Q_c.

427. BREEDLOVE, Janet S. Predicting gymnastic performance based on personality traits and professed self-concept for college women. M.A. in Physical Education, 1977, 44 p. (O. Holyoak)
Predicted performance of women collegiate gymnasts based on selected personality traits and professed self-concept was determined. Jackson's Personality Research Form and the TN Self-Concept Scale were administered to 48 women collegiate gymnasts. Scores from these instruments were compared to performance in 4 individual gymnastic events (vault, balance beam, uneven parallel bars, and floor exercise), and the all-around event as determined by meet scores. Sig rs were found between gymnastic ability and self-concept measures of physical self, moral-ethical self, total variability, and column total variability. In the area of personality, nurturance, play, and infrequency. Additional statistical analysis using R techniques were applied to determine if selected clusters of personality traits or self-concept measures would be predictive of gymnastic performance. No sig factors were found.

428. CLARKE, Thomas E. Biomechanical analysis of the marathon race. M.A. in Physical Education, 1977, 53 p. (D. Kaufmann)
Effects of fatigue on the biomechanical variables of marathon runners in competition were determined. 8 male Ss, all sub-3

marathoners, were filmed at 3, 13 and 23 miles of a competitive marathon by a 16 mm camera in the sagittal plane of action. 16 landmarks of the body from the projected frames were transmitted to a computer program. Body segment parameters proposed by Contini were used in a program constructed to calculate the following biomechanical parameters: torques at knee and hip joints, path of body's center of gravity, path of center of gravity of all lower limb segments, horizontal velocity, time of support, time of non-support, stride rate and stride length. Comparisons were made of these variables at 3, 13 and 23 miles. It was found that throughout the race: time of support and non-support increased; horizontal velocity decreased; stride length showed an overall decrease at 23 miles; stride rate decreased; vertical displacement of the runners' cg's increased; cg of foot was found to be an average of 8.09 cm ahead of cg of body at touchdown. It was concluded that the marathon runner undergoes sig biomechanical changes due to fatigue during his 2.2 to 3 hour competition.

429. DAVIS, Catherine M. The functional efficiency of jogging shoes in relation to selected parameters of design and construction. M.A. in Physical Education, 1976, 117 p. (W. Updyke)

Friction force, bending resistance, and sole-cushioning characteristics of jogging shoes were quantified and compared. 17 different models of jogging shoes, supplied by 5 major manufacturers, were examined. A less costly model was included in the analysis. Test procedures included quantitative measurement of independent variables of friction force and bending resistance of shoes in the new, unworn state. Sole-cushioning characteristics were measured both in the new, unworn state and after a simulated break-in period. All testing was performed under laboratory conditions in order to control the variables studied. A Pearson r was used to establish the reliability of all testing procedures. 1-way ANOVA was performed to establish diffs among models and a post hoc Scheffe analysis was applied to locate sources of sig diffs. Analysis indicated that sig diffs did exist among shoe models with respect to friction force, bending resistance, and sole-cushioning characteristics, both before and after a simulated break-in period.

430. KOREY, Linda A. Effects of hyperoxia on muscle glycogen in resting and contracting dog skeletal muscle in Situ. M.A. in Physical Education, 1976, 42 p. (C. Zauner)

Whether or not muscle glycogen utilization during twitch contractions is altered by breathing 100% O_2 as opposed to ambient air was determined. 14 mongrel dogs of either sex, ranging in wt from 9 to 17 kg were randomly assigned to 1 of 3 groups. 5 animals were used in the control group. These exps were designed to determine if the glycogen content per gram of muscle was the same in the 2 resting gastrocnemius-plantaris muscle groups. The time that the muscle groups remained _in situ_ following surgical exposure ranged from 1 to 30 min. Exp Group A was comprised of 5 dogs, each of which breathed atmospheric air while the gastrocnemius-plantaris muscle group of the left hind limb was caused to contract at 5 twitches per sec (5 T/sec) through the use of stimulating electrodes for 30 min. Exp Group O_2 consisted of 4 dogs which breathed 100% O_2 while the gastrocnemius-plantaris muscle group of the left hind limb was stimulated to contract at 5 T/sec for 30 min. Following investigations with all animals, 8-12 g samples of the central portion of the muscle from both hind limbs were removed simultaneously from each leg, placed on cold glass plates in an ice bath, cut into 9.5 to 1.0 g pieces and then quickly frozen in a beaker containing 99.5% acetone with dry ice. Glycogen content was measured using an anthrone reagent following digestion of the tissue by 30% KOH. The content of glycogen was then assessed spectrophotometrically. The mean diff in glycogen concentration between the contracting and non-contracting muscle was tested for statistical sig by means of a _t_-test for matched pairs. The Gly L/R ratio was established for all paired samples. The statistical sig of mean diffs in the L/R ratio among control and exp groups was tested through use of a _t_-test for unrelated means. There were no statistically sig diffs between mean muscle glycogen content of right and left leg muscles in the control series. However, in both the normoxic and hyperoxic breathing animals, the glycogen content of the contracted muscle was sig less than in the uncontracted muscle. Although the mean L/R ratio of glycogen content in the control group (1.04) was sig greater than in both the air breathing (0.65) and O_2 breathing (0.59) animals, this parameter was not sig diff when the 2 exp groups were compared. Variability of data in this study is rather large, and the S population was small. Although these experiments failed to demonstrate diffs in muscle glycogen utilization under 2 conditions of breathing mixtures, it is recommended that similarly designed studies be carefully conducted before final conclusions are derived.

431. McMURTRIE, Valerie G. The compliance of selected intercollegiate athletic programs to Title IX. M.A. in Physical Education, 1977, 67 p. (R. Alexander)
Title IX, created to end sex discrimination in most educational institutions receiving federal funds, became law in 1972, as part of the Education Amendments. Section 86:41 deals specifically with athletics, stating that equal opportunities must be provided, and that equal aggregate expenditures are not required. In July, 1975, the Dept of HEW published final regulations for the implementation of Title IX, allowing universities 3 yrs to comply with the section concerning athletics. In order to assess the current status of intercollegiate athletic programs and how they are expected to change by 1978, a questionnaire was developed to gather specific information related to the 9 areas of concern in athletics as listed by Dept of HEW. Questionnaires were mailed to 22 universities with enrollments of 10,000 to 20,000 students in 7 northern midwestern states. 19 questionnaires were returned, for an 86% response. Of these, 17, or 77%, contained enough information for inclusion in the statistical analysis. 67% of all responses revealed treatment preferential to the men's athletic programs. Individual ratios calculated for all answers by each school showed that 42% of the answers favored the programs for men, 43% were equal responses for both men's and women's programs, and 15% of the answers favored the programs for women. Although the statistics favor the programs for men, all responding schools indicate compliance with Title IX by 1978. A major point of controversy among professionals in the field of college athletics has been that equal funding was not deemed necessary to provide equal opportunity. Because of this provision of Title IX, programs for men may continue to be superior to programs for women, but this is lawful if equal opportunity can be shown.

432. PARKER, Stephen L. The effects of self-defense training on self-assertiveness for women. M.A. in Physical Education, 1977, 39 p. (O. Holyoak)
Sig changes that occur related to self-assertiveness levels of women as a result of instruction in self-defense were determined. Ss were assigned to a quasi exp design consisting of 2 groups, an exp group and a control group. The Rathus Assertiveness Schedule, a 30-item scale, was administered on a pre- and post-test basis. The data obtained from the Rathus Assertiveness Schedule showed no sig change. In addition, 2 12-item Semantic Differentials were included for the 2 groups. Scores showed a trend in a positive direction related to being

more assertive on the factors of evaluation, potency, and activity. On the parameters of activity and evaluation from the Semantic Differential, "I view myself on being self-assertive as. . ." a sig change did occur. The factor of potency from the Semantic Differential, "I view self-defense as. . ." showed a sig change.

433. SAKARIS, James D. Biomechanical analysis of overhand and sidearm fastball pitching techniques in baseball. M.A. in Physical Education, 1978

This study compared the biomechanical variables of overhand and sidearm fastball pitching techniques. 4 Ss, 1 skilled HS pitcher and 3 college varsity pitchers, were filmed by two Locam 16mm cameras and a Beaulieu 16mm camera. The Ss were filmed in the sagittal, frontal and horizontal planes of motion, performing 2 trials of each technique. 16 anatomical points taken from the projected frames were programmed into a computer. The program calculated the biomechanical variables using the body segment parameters proposed by Contini. Analyses were made of velocity of ball at point of ball release, elbow flexion of pitching arm, arm-hip angle of pitching arm and body inclination in the frontal and sagittal planes. In addition c.g. in each plane was compared. The data indicated that there were no diffs between the velocity of the overhand and sidearm fastball, that at ball release there was less lateral body lean in the sidearm throw than in the overhand throw, elbow flexion was greater in the overhand throws than in the sidearm throws, arm-hip angle was greater in the overhand skill than in the sidearm skill and, c.g. of the body was forward, downward and minimally to the right.

434. YOST, Lucinda J. Resting and exercise pulmonary diffusing capacity and physical working capacity in trained young swimmers and healthy, untrained youths. M.A. in Physical Education, 1977, 56 p. (C. Zauner)

This study described observed and predicted resting steady state diffusing capacity of the lung for carbon monoxide (DLco), exercise steady state DLco, PWC_{170}, and VO_2 at rest and at exercise for highly trained young swimmers and for untrained youths. 2 groups of 13 Ss each, aged 8 to 23 years, were matched for age, sex, and body size. Sig of mean diffs between observed and predicted resting DLco, between observed and predicted resting DLco, and between the 2 groups for all measured parameters was determined by means of a t-test for correlated observations. Swimmers' mean observed DLco sig exceeded their mean DLco values predicted from 3 to 4 equations. The untrained youths were not found to differ sig from their predicted values. The swimmers attained sig greater values than did the untrained in resting and exercise DLco, PWC_{170}, and VO_2 at rest and at exercise.

435. YOUNG, Wendy F. Compromises: A choreographic work to music from Herbie Hancock's Palm Grease. M.A. in Physical Education, 1977, 70 p. (O. Holyoak)
The premise of the dance composition was to create a theatre dance composition which projected through movement the mood of Herbie Hancock's Palm Grease. The choreographic movement was primarily in the jazz idiom with ballet and modern dance styles used also. The dance was structured to meet the context of a proscenium stage and the costuming and lighting were designed to accentuate the moods and theme of the choreographic work. The composition was presented in a public concert in Constans Theatre at the University of Florida on April 14, 15, and 16, 1977. The dance was performed by a cast of 3 dancers selected by the choreographer from members of the University of Florida Dance Company.

436. WIGKLIN, Theresa F. Effects on patients of nonverbal displays of power by medical professionals. M.A. in Health Education, 1977, 49 p. (S. Fagerberg)
This study examines the effects of nonverbal displays of power and dominance, as exhibited by medical professionals, on patients. The investigator, acting as a health professional, interviewed 30 exp Ss and 30 control Ss following their physician appointments at the university infirmary. For the 1st group specific high-power nonverbal signals (posture, interaction distance, visual displays, use of touch, emotional displays, verbal/vocal cues) were displayed by the investigator during the interview. Such signals were avoided for the 2nd group. Each S was then given 2 questionnaires: 1 on communication satisfaction and another on intention to comply with medical instructions. A 3rd group of 30 Ss also completed the questionnaires but were not interviewed. All Ss were matched according to specific type/degree of illness. Total scores were tabulated and a 1-way ANOVA was performed for each variable. Results indicate that in the clinical setting nonverbal dominant behavior by medical professionals sig decreases the patient's level of satisfaction with communications and his intention to comply with medical instructions. Implications of these findings can be applied to medical education and the establishment of the patient-staff relationship.

UNIVERSITY OF GEORGIA (Ted Baumgartner)
ATHENS, GEORGIA

437. BIASIOTTO, Judson L. The effects of hypnosis and task motivating suggestions upon muscular endurance. Ed.D. in Physical Education, 1977, 81 p. (R. Bowen)

The effects of hypnosis, task-motivating suggestions, and the combined effects of these upon the muscular endurance of high, medium, low, and non-susceptible Ss was investigated. The Ss, 167 female volunteers, were submitted to a 5-wk period of physical conditioning and wt training. Following the conditioning period, Ss were tested on a 1-RM supine press to determine max strength. Later Ss were pre-tested for max reps on the supine press, using 1/4 the wt lifted on the 1-RM supine press. After completing this test, volunteers were solicited for the hypnotic exp and tested on the Stanford Hypnotic Susceptibility Scale, Form A, to identify 20 somnambulistic Ss, 20 hypotaxy Ss, 20 hypnoidal Ss, and 20 non-hypnotizable Ss. The exp groups were then assigned to 1 of 4 exp conditions: hypnosis per se; task-motivating suggestions per se; hypnosis followed by task-motivating suggestions; and control. Post-testing measured max reps of the supine press. The results revealed that hypnosis per se did not enhance muscular endurance; task-motivating suggestions and hypnosis with task-motivating suggestions were effective in facilitating muscular performance. The effectiveness of the aforementioned treatments in enhancing muscular endurance scores was not dependent upon the hypnotic classification. None of the treatments were superior to the other in enhancement of muscular endurance.

438. BURTON, Carolyn. Influence of instructional media on attitudes of modern dance students toward movement. Ed.D. in Physical Education, 1977, 122 p. (C. Lewis)

The instruments used were Kenyon's ATPA scale, form DW and Self-Evaluation Inventory. The following conclusions were made: The exp instructional media method was not a more efficient teaching method than the traditional lecture demonstration method for increasing favorable attitudes of beginning modern dance students toward physical activity in general. However, the traditional lecture demonstration method of teaching was superior to the exp instructional media method of teaching for increasing favorable attitudes toward the subdomain of physical activity as an ascetic experience; the attitude remained a negative one for the exp group. Modern dance students taught by the traditional lecture demonstration method revealed higher self-evaluation of their total movement abilities than students taught by the instructional media method. There were no diffs between methods for influencing self-evaluation of changes in movement abilities.

439. GARRISON, Colette S. Effects of classification, sex and grade point average on student evaluation of physical education instructors. Ed.D. in Physical Education, 1977, 114 p. (C. Lewis)
53 sophomore majors and 258 senior majors taking PE theory courses in 4 accredited southeastern universities responded to the University of Georgia Faculty-Course Evaluation Form during the Fall of 1976. Results of the study indicated that classification was a sig variable on several dimensions of the instrument. Sophomores evaluated instructors higher than did seniors on Subject Organization and Competence, Instructor-Student Relations, and Reasonable Work Load and Tests. Male instructors were evaluated higher than female instructors on the dimension of Reasonable Work Load and Tests. This was the only dimension which indicated any interaction regarding sex of instructors. GPA produced no statistically sig interactions among the 5 dimensions. Final statistical analysis was done concerning the possible variance in rating of instructors by sophomore and senior PE majors. Within each dimension, sophomores were slightly more consistent in their rating of instructors than were seniors.

440. HUNT, Sharon L. Relationships between meanings of work and meanings of leisure. 1977, 193 p. (A. Jewett)
This study examined relationships between selected meanings of work and leisure in the lives of workers comprising 3 occupational strata employed by the University of Georgia in order to determine the relevancy of the compensatory hypothesis. Ss were chosen by the process of systematic random sampling from the UG computer printout of occupational classifications. The sample included 48 teaching faculty, 46 office workers, and 39 physical plant employees. The major conclusions were as follows: There were sig relationships in the way each occupational group perceived the meanings of work and the meanings of leisure. There were sig diffs in the way that the 3 occupational groups conceptualized the meanings of work. Meanings of leisure were similar for workers in all 3 occupational categories.

441. TAYLOR, Willie L. The effectiveness of ballroom dance instruction on the self concept and mobility of blind adults. Ed.D. in Physical Education, 1977, 135 p. (R. Bowen)

This study investigated the effectiveness of ballroom dance instruction on the self concept and mobility of blind adults. It was hypothesized that there would be no diff between the self concept mean scores and the mobility mean scores of blind individuals who participated in a ballroom dance program and blind adults not exposed to the program. It was also hypothesized that there would be no r between the level of self concept and mobility. The Ss were 30 blind men and women, aged 25-64 yrs. The Ss were drawn randomly from a pool of blind adults served by the NC Division of Services for the Blind from the Office of the Guilford County, NC Division, Dept of Social Services. The mobility mean score of the exp group was superior to the control group. No diff was found between the self concept mean score of the exp and control groups and there was no sig r between the level of skill acquisition in ballroom dance and self concept and mobility skill levels.

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN, ILLINOIS

442. DALY, John A. Sport, class and community in colonial South Australia. Ph.D. in Physical Education, 1977, 335 p. (G. Lueschen)

443. DIEZ, Elizabeth D. Relation of anthropometric measures to body fatness in college-age women. M.S. in Physical Education, 1978, 86 p. (T. Lohman)

444. DRAGICEVIC, Jessica. A comparative analysis on policy making of the two national sports organizations in Chile - The organizational structure, executive and goals. M.S. in Physical Education, 1977, 140 p. (G. Lueschen)

445. GOULD, Daniel R. The influence of motor task types on model effectiveness. Ph.D. in Physical Education, 1977, 146 p. (R. Martens)

446. KELLY, Colin C. A tentative critique of policies in physical education and their implementation. The case of English primary and secondary schools in 1974. Ph.D. in Physical Education, 1977, 361 p. (G. Lueschen)

447. KELLY, Thomas M. Comparison of coronary heart disease risk factors in active and sedentary middle-aged men. M.S. in Physical Education, 1978, 212 p. (J. Misner)

448. MACKES, Beverly E. Sequential development of the movement pattern sliding. M.S. in Physical Education, 1977, 143 p. (M. Thompson)

449. MITCHELL, Tracy. The status of physical education for the educable mentally handicapped in senior high schools in Illinois. M.S. in Physical Education, 1977, 101 p. (R. Wright)

450. MUSCH, Thomas O. Strength relative to the tapered workload of collegiate varsity swimmers preparing for a championship meet. M.S. in Physical Education, 1977, 96 p. (R. Boileau)

451. RINER, William F. Effects of two levels of physical training intensity on selected measures of central circulatory and metabolic capacities in 8-11 year old boys. M.S. in Physical Education, 1977, 115 p. (R. Boileau)

452. RIZZO, Corrence G. Prediction of lean body mass in young girls from skinfold thickness and body weight. M.S. in Physical Education, 1977, 65 p. (T. Lohman)

453. SCHLEICHER, Richard C. The effects of arousal during a lecture on learning and retention. Ph.D. in Physical Education, 1977, 139 p. (A. W. Hubbard)

454. SELINGER, Arie. The body as a three component system. Ph.D. in Physical Education, 1977, 272 p. (T. Lohman)

455. SIMON, Julie A. Children's anxiety in sport and non-sport evaluative activities. Ph.D. in Physical Education, 1977, 107 p. (R. Martens)

456. TAAFFE, John E. Observational learning and symbolic coding of a sequential motor task by educable mentally handicapped children. M.S. in Physical Education, 1977, 61 p. (G. Roberts)

457. TETU, Robert G. A kinesiological analysis of the "American Twist" tennis serve executed by a highly skilled tournament level tennis player. M.S. in Physical Education, 1977, 62 p. (C. Dillman)

458. TOBACHNIK, Susan I. The effects of methylphenidate upon selected cardiovascular responses of hyperactive children during rest and exercise. M.S. in Physical Education, 1977, 67 p. (R. Boileau)

459. RUCKER, Debbie F. The effects of rewards on intrinsic interest in a motor activity. M.S. in Physical Education, 1977, 62 p. (G. Roberts)

460. WIDMEYER, William N. When cohesiveness predicts performance outcome in sport. Ph.D. in Physical Education, 1977, 112 p. (R. Martens)

461. WOODS, Doris A. An examination of the effects of biofeedback in the rehabilitation of arm and shoulder function after a cerebrovascular accident. M.S. in Physical Education, 1977, 71 p. (C. Dillman)

UNIVERSITY OF IOWA (Louis E. Alley)
IOWA CITY, IOWA

462. COPELAND, Dolores A. The effects of an isokinetic power training program for women on vertical jumping ability. Ph.D. in Physical Education, 1977, 63 p. (C. Stamm)

The purpose of the study was to determine the effects of approximating the speed of isokinetic power training to the speed of performing the vertical jump on women of low and high jumping ability. 40 female undergraduates served as Ss for the exp. On the basis of the pre-test vertical jump performance criterion scores, Ss with the lowest 20 scores were classified as the low jumping ability group and the Ss with the highest 20 scores were classified as the high jumping ability group. The 20 Ss in the low jumping ability group and high jumping ability group were randomly assigned to the control groups or exp groups. The exp groups participated in a 5-week isokinetic unilateral leg press training program with a limb movement speed of 250° per sec. Exp group Ss performed 3 sets of 8 reps 3 days per wk. All Ss were tested on the vertical jump criterion measure at the completion of the 5-wk investigation. The results of the study indicated that the training program improved the vertical jump performance scores of the low jumpers but did not improve the vertical jump scores of the high jumpers. The effect of the treatment depended on the initial vertical jumping ability of the Ss.

463. GORMAN, John B. Perceptions of senior high school principals and physical education leaders regarding importance of selected factors in conducting quality programs of physical education. Ph.D. in Physical Education, 1977, 230 p. (G. Hansen and L. Alley)

The PE self-study form in Evaluative Criteria for the Evaluation of Secondary Schools (National Study of Secondary School Evaluation, 1969) was used to construct a questionnaire completed by 248 principals, regional leaders in PE, and officers of state associations of health, PE and REC. Respondents were required to rank-order, in terms of importance in conducting quality programs of PE, 5 factors in each of 8 categories: instructional staff, nature of offerings, physical facilities, organization, outcomes, instructional materials, instructional activities, and methods of evaluation. ANOVA was used to test for diffs between means for principals, regional leaders, and state officers. In general, respondents tended to consider the factors associated with the duties of their positions to be more important than those associated with the duties of other roles. All 3 groups gave a relatively low ranking to the importance of outcomes, which did not reflect the prevailing emphasis on "accountability" in education. There is a need for measures designed to obtain consensus among educational leaders regarding the importance of factors inherent in conducting of quality programs of PE, particularly with reference to student outcomes, the variety and sequence of offerings, and instruction that benefits all students regardless of ability.

464. KING, Harry A. Application of a computer simulation model to problems concerning ranking of individuals in complete and incomplete paired comparison tournaments. Ph.D. in Physical Education, 1977, 159 p. (D. Casady and L. Feldt)

A computer simulation model was used to generate the results of 100 simulated table tennis tournaments for each of 30 combinations of tournament types ("round robin" tournaments of 3-set matches, 21-points-to-win matches and 11-points-to-win matches, and "round robin" tournaments in which 33% and 45% of the results of matches were discarded), player homogeneity (3 levels), and tournament size (14 players and 19 players). Each player was ranked for each matrix of tournament results in 4 diff ways, i.e., number of matches won, ratio of points won/lost in matches, wins plus wins of all players he defeated, and his wins score plus all wins scores of opponents he defeated. The accuracy with which the true ranking (in terms of playing ability) of individuals could be estimated from an empirical ranking was assessed by using Spearman's Rho and Kendall's Tau B rank order r coefficients. Findings clearly indicate that accurate rankings of players can be obtained from tournaments utilizing games of shortened lengths, or from incomplete "round robin" tournaments utilizing as few as 55% of the matches normally played. Little diff in the accuracy of the rankings occurs when the players are ranked on the basis of the methods considered. Tournament size (number of players) and homogeneity of players (in terms of skill) does not appreciably change the results obtained.

UNIVERSITY OF KANSAS (Jean Pyfer)
LAWRENCE, KANSAS

465. ALLEN, Roger J. The relative effectiveness of progressive relaxation, meditation, and GSR biofeedback for reducing psychophysiological stress. M.S. in Physical Education, 1977, 199 p. (E. Glover)

466. ALPERS, Patricia A. The effects of coeducational physical education on the expressed attitudes of ninth-grade boys and girls toward physical education as a physical activity. M.S. in Physical Education, 1977, 101 p. (W. Osness)

467. ANNEBERG, Linda. A study of the effect of different relaxation techniques on tactile deficient and tactile defensive children. M.S. in Physical Education, 1977, 91 p. (J. Pyfer)

468. ARD, Gary L. A cinemagraphical study of the golf swing. M.S. in Physical Education, 1977, 149 p. (J. Pyfer)

469. CHALMERS, Starr R. Adolescent mothers' programs with infant care facilities. M.S. in Physical Education, 1977, 89 p. (E. Glover)

470. COOK, Philip L. The effects of auditory stimuli on heart rate during exercise. M.S. in Physical Education, 1977, 52 p. (W. Osness)

471. ELLIOTT, Carol H. Effects of augmented health education on visits to the school nurse by fourth grade students. M.S. in Physical Education, 1977, 61 p. (E. Glover)

472. ITEN, Mary E. The physiological effects on college females from a training program involving flexibility, endurance and resistance activities. M.S. in Physical Education, 1977, 119 p. (W. Osness)

473. THOMPSON, Marsha L. An intercorrelational analysis of self concept factors with estimations, aspiration, and actual scores of physical fitness and motor skill ability of fourth grade, fifth grade, and sixth grade children. M.S. in Physical Education, 1977, 159 p. (J. Pyfer)

474. WAHLGREEN, Dennis A. A comparison of practice plans and team statistics as factors of success in NAIA basketball. M.S. in Physical Education, 1977, 85 p. (W. Osness)

475. WALKER, Mary K. Investigation of personality development among participants and non-participants of a junior high drill team. M.S. in Physical Education, 1977, 72 p. (J. Pyfer)

476. WITT, Diane. A study of the correlations between self-concept, aspiration, and actual performance of specific motor stunts of junior high school educable mental retardates. M.S. in Physical Education, 1977, 42 p. (J. Pyfer)

UNIVERSITY OF MARYLAND (David H. Clarke)
COLLEGE PARK, MARYLAND

477. BOHREN, Judy M. The role of the family in the socialization of female intercollegiate athletes. Ph.D. in Physical Education, 1977, 152 p. (A. Ingram)

The Ss were 494 female intercollegiate varsity athletes and 475 non-athletes from 12 colleges and universities, representing 10 diff competitive sports. The C-TAB cross-classification analysis and multi-dimentional contingency tables were used to test the interactions among athletic status, socio-economic status, mother's sport participation, and father's sport participation. A 2nd cross-classification tested the interactions among athletic status, socio-economic status, birth order, and sex of older sibling. The interaction of athletic status and mother's sport participation indicated that the majority of mothers who were primary sport participants had athletic daughters. The interaction of athletic status and socio-economic status occurred mainly among Ss representing the low socio-economic group, reflecting a disproportionately large representation of this category in the athlete group. The interaction of mother's and father's sport participation indicated that the majority of fathers who were primary sport participants had wives who were non-participants, but that the majority of mothers who were primary sport participants were married to men who were also primary participants. Female athletes were more likely than non-athletes to have an older brother.

478. CERNUGEL, Tina P. Determination of physical parameters of the upper extremity using the physical pendulum method. M.A. in Physical Education, 1977, 86 p. (A. Dainis)

The use of the physical pendulum method as a means of determining the moment of inertia of the upper extremity, and the nature of the damping factor at the shoulder joint were investigated. A volumetric method was used to determine a comparative value for the moment of inertia, employing 5 male Ss. The physical pendulum procedures were followed for the upper extremity alone, and for the upper extremity with an added mass, employing 20 trials during which the upper extremity was set into motion and allowed to oscillate freely before coming to rest. Values for the moment of inertia obtained using the physical pendulum method differed from those obtained using the volumetric method by approximately 25%. Damping was found to be of a simple nature, proportional to the velocity. It appears that the physical pendulum method is a valid tool for determining the moment of inertia of the upper extremity.

479. COBB, Richard B. Determining the independence of the recall and recognition states of motor memory in a redundant task. Ph.D. in Physical Education, 1977, 241 p. (C. Dotson)

Schmidts' Schema Theory of Discrete Motor Skill Learning was used as a theoretical foundation, upon which an experimental paradigm was established that would separately measure recall and recognition states. An additional purpose was to ascertain if a reduction in response produced feedback altered either memory state. 60 male volunteers were randomly divided into 2 treatment groups designated as immediate KR (5 second delay) and delayed KR (25 second delay). Phase I of the experiment consisted of learning to move a slide 30.48 cm with follow through permitted in exactly 150 msec with KR provided after each trial. Phase II began after a short rest in which KR was withdrawn along with the manipulation of feedback states. Analysis of performance curves indicated rapid learning over the initial blocks of trials. The effect of the temporal occurrance of KR revealed that both groups were responding equally over the learning trials. When KR was withdrawn, the KR5 limited feedback group significantly regressed in accuracy of criterion performance, but this trend was not sustained over the no KR trials. In addition, when KR was withdrawn after it had been delayed in acquisition a significant change in the consistency of responding occurred. Both of these results contradict a schema interpretation of motor learning.

480. FINCH, Alfred E. Relationship of segmental to total body momentum in the standing long jump. M.A. in Physical Education, 1977, 69 p. (A. Dainis)
Propulsive limb movements were examined to determine the diffs in the segmental coordination and contribution employed by poorly and highly skilled long jumpers. College age male students (N=30) were categorized into 2 groups of poorly and highly skilled jumpers. The segmental velocities, momenta, and total body momenta were determined through kinematic and kinetic analysis of cinematographic records taken by medium speed photography of the take-off phase. There were small but sig diffs between the 2 groups' limb coordination; the poor jumpers initiated the propulsive movement by extending at their hips, while the highly skilled jumpers utilized their upper extremities to initiate the movement. The highly skilled jumpers' greater horizontal projection velocities were primarily responsible for their longer jumping distances.

481. FONTAINE, Jane B. Androgyny, femininity, and masculinity characteristics of female basketball players compared with game performance. M.A. in Physical Education, 1977, 85 p. (A. Ingram)
Players from an Eastern Regional Basketball Tournament (N=105) were administered the Bem Sex Role Inventory (BSRI) and every player was rated by her coach. The results suggested that sport participation for females requires initiative, aggressiveness, and independence characteristics. It was found that there was no relation between coaches' ratings of skill and sex role.

482. GOLIBER, Nancy E. The relationship between muscular strength and aerobic capacity as measures of physical fitness in college women. M.A. in Physical Education, 1977, 60 p. (D. Clarke)

30 female volunteers were tested for muscular strength using a cable tensiometer test battery developed for college women, including shoulder flexion, hip flexion, and ankle plantar flexion, and for aerobic capacity using predicted max VO_2 obtained from a submax treadmill test. The reliability for the strength tests was r = .82, and for aerobic capacity was r = .561, which while statistically sig, exhibited greater specificity than generality, with very little predictability.

483. HARTWYK, Barry J. The effects of self-viewing and model-viewing upon the rate of learning and retention of a balance skill. M.A. in Physical Education, 1977, 58 p. (G. Kramer)

Male college students (N=75) were randomly assigned to control, self-viewing, and model-viewing groups. Ss received 1 5-sec practice trial, 20 20-sec learning trials, and 5 20-sec retention trials on a stabilometer. Augmented feedback was administered during the inter-response interval of the 20 learning trials for the self-viewing and model-viewing groups. The self-viewing group viewed their previous performance following each trial, while the model-viewing group viewed a model performance prior to each of the learning trials. The Ss returned 5 days later to be retested in order to determine levels of retention. Results indicated that no sig diffs occurred among groups. A quartic learning trend occurred during the learning period which indicated a rapid learning period, a leveling of learning, then another marked learning period with another leveling-off. Sig diffs occurred between pre-rest and post-rest trials indicating that a sig loss of learning had occurred; however, during the retention trials a rapid return to previous levels of learning was indicated through graphic illustration.

484. McGRAIN, Peter. Trends in selected kinematic and myoelectric variables associated with learning a novel motor task. Ph.D. in Physical Education, 1977, 139 p. (D. Kelley)

Cinematographic and electromyographic methods were used to collect kinematic and myoelectric data on 41 male Ss. The novel task consisted of propelling a 4-wheeled carriage along a level aluminum track by a knee extension movement. A sig amount of learning took place over 21 trials. Both knee joint and ankle joint angular velocities at release followed the same trend as performance; 2 myotemporal variables had no sig trends on the 4 muscles under investigation; and 2 knee flexors had linear trends and 2 knee extensors had cubic trends on the variable maximum Iemg amplitude. It was concluded that trends of joint angular velocities over practice more closely resembled the performance score trends than myoelectric activity; when myotemporal changes are not evident over practice, changes in max Iemg amplitude of muscles are responsible for increasing performance proficiency; and if performance demands an increase in joint angular velocity, agonistic as well as antagonistic myoelectric activity will increase in muscles which act at the joint.

485. QUINN, Katherine P. Warm-up decrement: A test of the activity-set hypothesis in a stabilometer task. M.A. in Physical Education, 1977, 59 p. (R. Tyler)
Undergraduate females (N=60) were assigned to 3 groups with 20 Ss in each group. After all Ss received 20 trials of 20 sec each on the stabilometer, the exp treatments were administered. 1 group rested during the 5 min interval and a 2nd group participated in a task which consisted of balancing in a V-sit position. The 3rd group engaged in a stylus tapping speed test. After treatments, all Ss had 10 additional stabilometer trials. No sig diffs occurred among groups, indicating that the interpolated task did not reinstate the activity set for the stabilometer task.

486. SILVA, John M. Changes in the affective state of guilt as a function of exhibiting instrumental or reactive aggression. Ph.D. in Physical Education, 1977, 257 p. (B. Husman)
The role of guilt over aggression in two social settings was experimentally evaluated. The Ss were 122 males whose dispositional level of guilt was evaluated through [illegible] Mosher Forced Choice Inventory (MFCI) for guilt over aggressive behavior. Ss were randomly assigned to treatment conditions of instrumental aggression non-sport (IANS), instrumental aggression sport (IASP), reactive aggression non-sport (RANS) and reactive aggression sport (RASP). Each non-sport condition involved a S and a trained confederate competing at a pegboard assembly task while being timed. The IANS condition involved no verbal interaction between the participants, and the RANS condition involved a carefully designed interaction between the confederate and the S. Each participant attempted to distract and interfere with his opponent through the use of verbal reactive aggression. The sport condition involved a S and a trained confederate group of 5 individuals

competing in a 3 on 3 game of "full court" basketball. Each of the trained confederates had a predefined role designed to elicit physical and verbal reactive aggression from the Ss in the sport condition. The IASP condition consisted of a subject and the confederate group engaging in a 3 on 3 game of basketball where only instrumental aggression was exhibited by the S. There were no sig diffs in the amount of guilt experienced by dispositionally high guilt Ss as compared to dispositionally low guilt Ss. A highly sig interaction was found for the variables of aggression and social setting; the RANS Ss experienced sig greater amounts of affective guilt than the RASP Ss, and the RANS Ss experienced sig more affective guilt than IANS Ss. Ss in the RASP and IASP did not sig differ in the level of affective guilt experienced.

487. TREICHLER, Lee G. The relationship between reaction time and ball-catching ability in first and second grade children. M.A. in Physical Education, 1977, 76 p. (R. Tyler)

1st grade children (N=39) and 2nd grade children (N=36) were compared in reaction time and ball-catching ability. The relationship between reaction time and ball-catching ability was also investigated. In addition, a gravity device was tested for validity in measuring RT. No diffs were found between 1st and 2nd graders in RT, but boys were slightly faster than girls. No grade or sex diffs were evident in catching ability. RT did not appear to be related to ball-catching ability at this grade level. The gravity device was not a valid measure of RT.

488. VLAHOV, Eric. The effect of different workloads varying in intensity and duration on resolution acuity. Ph.D. in Physical Education, 1977, 75 p. (D. Steel)

Exercise loads of 300, 700, and 1100 kpm for durations of 3 and 6 min and a non-exercise control session were administered to all Ss (N=21). Resolution acuity was then determined by finding thresholds of a 20 cpd sinusoid-wave grating using the method of adjustment. Sig improvement of resolution acuity was found for all workloads when compared to control, for all other workloads when compared to the 300 kpm/3 min workload, and for the 1100 kpm/6 min workload when compared to the 300 kpm/6 min and the 700 kpm/3 min workloads. Increases in duration or intensity of exercise resulted in sig improvement of resolution acuity. There was no sig interaction of the variables of intensity and duration of work on resolution acuity. Exponential curves could be predicted for the recovery of visual acuity for each of the exercise sessions. In a 2nd experiment, Ss (N=2) participated in 15 exercise sessions of 1100 kpm per min for 6 min and 5 non-exercise control sessions. Resolution acuity was then determined by using the Yes-No indicator response method to determine thresholds of a 20 cpd grating. The point of subjective threshold for exercise trials was sig lower than for non-exercise trials.

UNIVERSITY OF MASSACHUSETTS (Frank Katch)
AMHERST, MASSACHUSETTS

489. CLARKSON, Priscilla M. The effect of age and activity level on fractionated response and reflex time. Ph.D. in Human Movement, 1977. (W. Kroll)
60 male Ss were placed equally into 4 groups: old active, old inactive, young active and young inactive. The criterion measures analyzed were the fractionated response components of TRP, PMT, motor time, and MT for a right knee extension task. Ss reported for 2 testing days and were measured under 4 diff conditions: simple response, 3-choice response, and simple and choice resisted response time. Also measured were the fractionated components of normal and Jendrassik patellar reflex time which includes total reflex time, reflex latency, and reflex motor time. The data were analyzed using a split-plot ANOVA and a Duncan's new multiple range test. Between group comparisons on each response condition showed that the young active group never differed sig from the young inactive group. The old active group was sig faster than the old inactive group on all TRT, PMT, and MT components in each of the response conditions. For all MT response conditions the old active group did not differ appreciably from the young inactive group. Virtually no decrement was found in speed of normal and Jendrassik reflex time components due to age. It was concluded that age and activity level has no effect on reflex time, age results in a slowing of several response time components, activity level into old age has the most beneficial effect upon speed of movement.

UNIVERSITY OF MISSISSIPPI (Jim B. Chambless)
UNIVERSITY, MISSISSIPPI

490. ANDERSON, Eugene R. The effects of varying workload intensity and duration of exercise time on selected cardiovascular and anthropometric measure. Ed.D. in Physical Education, 1977, 144 p. (J. Chambless)
Research has indicated that submax intensities have produced favorable changes in CV efficiency. Female Ss (N=20) engaged

in a 1 wk pre-training session consisting of riding a bicycle ergometer 2 days/wk at a HR of 135-145 bpm for 10 min followed by an 11 wk training regimen. Pre- and post-measures were recorded on CV efficiency, 11 blood constituents, systolic amplitude and % of body fat. The Ss were randomly assigned to 1 of 5 groups (N=4). Group 1 served as the control group. Groups 2 and 3 trained at HRs of 125-135 and 145-155 bpm, respectively, for 12 min 5 days/wk. Groups 4 and 5 trained at similar HRs, respectively, for 20 min 3 days/wk. A 1-way ANOVA revealed a sig reduction in the % of body fat in Group 4 and a sig increase in CV efficiency in Group 5 when they were compared to Group 1. A 2-way ANOVA revealed a sig increase in uric acid between the means of Group 2 and 5 in favor of Group 5. A sig increase in CV efficiency was revealed between the means of Group 3 and Group 5 in favor of Group 5. Correlated ts were computed between pre- and post-test means. Sig diffs were found on 5 variables in Group 1, 5 variables in Group 2, 6 variables in Group 3, 2 variables in Group 4, and 2 variables in Group 5.

491. SELLERS, Jeanne S. A study of selected physical characteristics of the legs and feet of female athletes with shin splints. Ed.D. in Health, Physical Education and Recreation, 1977, 139 p. (D. Cleland)

This study determined whether there were physical diffs between present, past and non-shin splint Ss. HS female track athletes were chosen through deliberate selection and placed in one of 3 groups (N=45). Testing was conducted during the 1977 track season. The physical variables tested were arch stability, leg length, ankle flexibility and strength. An ANOVA revealed no sig diff in the variables among the 3 groups ($p > .05$). Sig rs were found among the variables in all groups ($p < .05$). Present shin splint Ss had rs in arch stability, flexibility and strength. Past and non-shin splint Ss had rs in flexibility and strength.

UNIVERSITY OF MISSOURI (J. Roberts)
COLUMBIA, MISSOURI

492. KNIGHT, Kenneth L. Comparison of blood flow in normal subjects during therapeutic applications of heat, cold, and exercise. Ph.D. in Physical Education, 1977, 242 p. (B. Londeree)

Based on clinical evidence, cryokinetics (alternating cold and active exercise) is replacing heat modalities as the preferred therapy for rehabilitation of traumatic musculoskeletal injuries in athletics. Theories have been advanced to explain the clinical successes of cryokinetics, but little scientific data have been collected. Strain gauge plethysmography was used to measure blood flow to the ankle of 12 uninjured male Ss. A repeated measures design was utilized with each S being tested under 6 exp conditions: heat packs, cold packs, control, heat-exercise, cold exercise, control-exercise. Exercise consisted of 5 3-min bouts (3.5 mph) interspersed with heat, cold, or control throughout a 45-min period. Non-exercise heat and cold were administered for 25 min each, followed by 20 min of no treatment during which blood flow returned to normal. Blood flow was measured regularly, and total flow computed by averaging over the 45-min treatment-post treatment period. Total flow (ml flow/100 ml tissue/min) was greater ($p = .0002$) during cold-exercise than during heat treatments. Contrary to some theories, there was no cold induced vasidilitation during, nor a reflex vasodilitation following, the 25 min cold aspiration. These data suggest that during cryokinetics, exercise causes the increased blood flow, and that cold applications function only to allow active motion in a painful joint.

493. WILLIAMS, Hill, Jr. Effects of a physical activity program on the fitness of moderately mentally retarded boys. Ed.D. in Physical Education, 1977, 197 p. (J. Roberts)

The study investigated the effects of a prescribed physical activity program on the arm strength, leg strength, abdominal strength, speed, flexibility, power and coordination, and CR endurance of 60 MMR males (CA 8-19) with IQs 30-50. The Ss were randomly assigned to 3 groups designated exp, social activity, and control. A 7-item motor fitness test was administered as a pre-test and post-test following a 7-wk treatment period. The exp group engaged in prescribed physical exercises 30 min/day, 3 times wkly; the social activity group engaged in prescribed social activity 30 min/day, 3 times wkly; and the control group engaged in their normal activity. Multivariate ANOVA, Univariate ANOVA, and Fisher's LSD were used to determine between which groups statistically sig diffs ($p < .05$) existed. The exp group made sig ($p < .05$) greater gains than both the social activity group and the control group on arm strength, abdominal strength, and CR endurance and the exp and social activity group made greater gains than the control group on speed. All other comparisons resulted in non-sig diffs ($p > .05$). It was concluded that the fitness of MMR boys can be improved through developmental activities but that the prescription of the specific activities is most critical in success of such a program.

UNIVERSITY OF MONTANA (Brian J. Sharkey)
MISSOULA, MONTANA

494. CAPRAROLA, Michael. The validation of methods used to predict fitness. M.S. in Physical Education, 1977, 49 p. (B. Sharkey)

495. KEARBY, Steven. The bad attitude: Players who do not try. M.S. in Physical Education, 1976, 73 p. (J. Dayries).

496. MUSSER, William H. Attitude and psychological meaning: Relation to participation in physical activity. M.S. in Physical Education, 1977, 61 p. (J. Dayries)

497. NOTARO, James. The effects of diet and exercise on blood lipid levels in adolescent males. M.S. in Physical Education, 1977, 52 p. (B. Sharkey)

498. WASHBURN, Richard. The effects of training on high density lipoprotein levels. M.S. in Physical Education, 1977, 75 p. (B. Sharkey)

THE UNIVERSITY OF NORTH CAROLINA AT GREENSBORO (Pearl Berlin)
GREENSBORO, NORTH CAROLINA

499. AVGERINOS, Elizabeth A. A study of different attitudes regarding Greek women held by Greek Orthodox men. M.S. in Physical Education, 1977, 252 p. (C. Ulrich)

500. BOETEL, Norma M. A factorial approach in the development of a basketball rating scale to evaluate players in a game situation. Ed.D. in Physical Education, 1977, 155 p. (R. McGee)

501. CRAFT, Ann H. The teaching of skills for the observation of movement: Inquiry into a model. Ed.D. in Physical Education, 1977, 207 p. (K. Barrett)
This study was an inquiry into a feasible model for teaching undergraduate physical education majors to observe movement using the body, space, effort, and relationships framework. A workshop was conducted as the setting for the inquiry into the model. The model was composed of 3 interrelated elements: the observer, the movement framework, and the environment.

Data were collected using 5 techniques: participant's logs, instructor's log, audio tapes, application tapes, and an outside evaluation. The data indicated that the model was a functional means for building observational skills. The concepts and practices within the model could be introduced into teacher preparation curricula. The model had some impact on the participant's attitudes toward observation in the teaching of PE. The difficulties encountered in teaching undergraduate PE majors to observe movement, using the BSER framework, are related to helping the participants to: recognize their personal biases, understand the importance of observing movement as a skill in teaching, and recognize the diff between observing movement and analyzing specific sport skills. Another difficulty was knowing what the participants were seeing as they were learning to observe. The use of a variety of recording techniques could help to alleviate this problem.

502. CRAIG, Beverly R. A child's personalized curriculum in physical education. M.Ed. in Physical Education, 1977, 93 p. (K. Barrett)

503. CROWE, Patricia B. An observational study of teachers' expectancy effects and their mediating mechanisms on students in physical education activity classes. Ed.D. in Physical Education, 1977, 190 p. (G. Hennis)
Support was shown for the identification of specific and differential teacher behaviors affecting student behavior based on Rosenthal's Four Factor Theory. Specific mechanisms by which teacher expectations were communicated to students were identified through Brophy and Good's Interaction Analysis System. 96 JHS students, ranked by their teachers in order of their physical achievement or skill potential, and were observed by a trained 3-member observation team. Rankings were used as the criterion measure of the teachers' expectations for their students' performance in PE. 48 of the students were designated as high achievers and 48 of the students were designated as low achievers. ANOVAs were performed to assess the effects of teacher expectations and to determine the effect of 5 diff variables (climate, feedback, output, input, touch). Sig diffs were found for 3 of the 5 variables indicating the following: teachers treated the designated high achievers more warmly (climate) than they treated the designated low achievers; teachers directed more evaluative comments to the designated high achievers (feedback); teachers gave the designated high achievers more attention and more opportunities to respond (output). More

evidence and stronger support was needed to confirm teacher expectations for the input and touch factors.

504. DOBBINS, Paula J. *Veneer*. M.F.A. in Dance, 1977, 26 p. (L. Andreasen)

505. ENNIS, Catherine D. *The development of a multi-skill test in lacrosse for college women*. M.S. in Physical Education, 1977, 112 p. (S. Robinson)

506. FORD, Maureen E. *The relationship between self-esteem and softball skill*. M.S. in Physical Education, 1977, 89 p. (S. Robinson)

507. GRAVES, Roberta H. *Service for the Lord's Day*. M.F.A. in Dance, 1977, 32 p. (L. Andreasen)

508. GREELEE, Joy C. *Selected variables related to movement task performance measures of 7-year-old girls*. Ed.D. in Physical Education, 1977, 136 p. (P. Berlin)

The relationship of 3 developmental variables--skeletal maturity, visual-motor functioning, and mental ability--with the early- and late-trial performance scores on 3 motor control tasks was examined. The degree to which early- and late-trial performance on each of the motor control tasks could be predicted by the developmental variables for 7-yr-old girls (N=35) was also investigated. Motor control tasks, which were developed utilizing elements of computer-analogy models, were designated as hopscotch, throw and catch, and stepping stones. Ss performed each task for 5 trials per day on 3 consecutive days. Results of the canonical *r* procedure indicated that no sig relationship existed between the developmental variables and performance on the motor control tasks. R analysis revealed that mental ability was a sig predictor of performance for early- (1&2) and late-trials (14&15) of the throw-and-catch task. No combination of the developmental variables was found to have satisfactory predictive power for early- and late-trial performance of the hopscotch or stepping-stones task.

509. HOLCOMB, Ernest C. *The motivations of high school male athletes*. M.Ed. in Physical Education, 1977, 51 p. (P. Berlin)

510. HUTCHISON, Jill. *Measurement of attitudes toward the conduct of intercollegiate basketball for women*. Ed.D. in Physical Education, 1977, 141 p. (R. McGee)

511. JOHNSTON, Jeanne L. The development of a model for assessing quality learning experiences in elementary physical education: An inquiry. Ed.D. in Physical Education, 1977, 219 p. (K. Barrett)

A personalized, movement learning model with emphasis geared toward assessing quality in movement learning experiences in ELE PE was developed for use in professional preparation. The development of the process model was based on a conceptualization of a quality, movement learning experience. Model components and subcomponents accrued from curriculum literature in education and PE. Thrusts from philosophy, psychology and art were evident. Emerging knowledges from the model dealt with assessment and movement learning theory. These knowledges evolved through the functioning of personal meanings of the writer in relation to the distinctive philosophical stance of movement education (AAHPER). The movement assessment guidelines and movement learning theory were composed of concept statements, concepts and criteria generated from the developed model. The model indicated human movement relationships (meanings), interrelationships (syntheses) and intra-inter interrelationships (extensions). 2 sets of criteria, internal and external, were employed to evaluate the model. In theoretical application, emerging knowledges supported model workability; evaluative criteria described internal and external model linkages to theory and praxis; and metaphor reversibility in the philosophical conceptualization indicated model stability. The model is characterized by responsitivity and disclosure; is classified as dynamic and symbolic. The possibility exists to utilize the assessment guidelines in education.

512. KEMP, Joann. Perceptions of leader behavior of selected women physical education administrators. Ed.D. in Physical Education, 1977, 210 p. (K. Barrett)

The study investigated selected physical educators' perceptions of the leader behavior of women PE administrators. The study was also concerned with the influence of sex of respondents in regard to their perceptions of the leader behavior of such administrators. 8 colleges and universities and 129 respondents participated in the study. A 64 item Q-sort based on Stogdill's concept of leader behavior was administered to respondents. Correlations determined relationships between initiating structure and consideration; ANOVA determined if sig diffs existed between subcategories, statement orientation, subcategories by statement orientation, and subcategories by statement orientation with sex as an added factor. Based on data analysis, the woman administrator was described in both leader behavior dimensions. She was perceived as relating more to subcategory of initiation of structure than to production emphasis, and more to subcategory of tolerance of uncertainty than to consideration. Statistically sig diffs were found between perceptions in subcategories and statement orientation and between subcategories by statement orientation by sex in both leader behavior dimensions. No statistically sig diffs were found between subcategories or between orientations with sex as a main effect.

513. McLEOD, Jane E. Prism. M.F.A. in Dance, 1977, 32 p. (L. Andreasen)

514. McVaigh, Betty L. Play orientations in picture books: A content analysis. Ed.D. in Physical Education, 1977, 112 p. (R. McGee)

This study investigated play theory orientations presented by the outcomes of play and game stories in children's picture books. Relationships of orientations to sex of the major characters, racial and ethnic portrayals of major characters, sex of adults and involvement in the play or games, and types of games were also investigated. A subproblem was to determine the effectiveness of Caillois' classification of games as a typology for play and games found in picture books. 64 preschool and primary level picture books with play and game themes were analyzed. The Elementary School Library Collection (9th edition) was used as the source for book titles. Data were collected by content analysis. A checklist was developed for coding the variables. Cross-tabulation tables were used to analyze the data. Autoelically-oriented outcomes were present in more than ½ of the picture books. Socially-oriented outcomes ranked 2nd, and self-orientations were 3rd. Orientations were related to other variables in the following ways: caucasian boys were most often depicted. Adults, often women, passively encouraged play. Role playing and modeling of objects were popular game types. Caillois' classification of games was not totally adequate.

515. NORTON, Candace J. Exploring the somatic dimensions of physical education. M.S. in Physical Education, 1977, 78 p. (C. Ulrich)

516. O'BRIEN, Barbara A. A philosophical comparison of the goals of dance education and humanistic education. M.Ed. in Physical Education, 1977, 91 p. (G. Cheney)

517. PHILLIPS, Frederick R. The accuracy of self-appraised health knowledge of selected college students in eight specific areas of first aid at The University of North Carolina at Greensboro. M.Ed. in Health Education, 111 p. (G. Gilbert)

518. SMITH, Jean C. An analysis of the duties performed by public high school head athletic coaches. Ed.D. in Physical Education, 1977, 186 p. (R. McGee)
An identification and analysis of duties actually performed by coaches provided a description of the job, "athletic coach", and the position, "coaching". A survey instrument was sent to 300 head athletic coaches of one sport within VA public HSs. Usable returns were provided by 165 respondents. Data revealed coaches spent their time in the areas of: sport administration; rules and regulations; facilities, equipment and supplies; public relations; athletes; team; and professional. Descriptions of the job, "athletic coach", and the position, "coaching", were obtained from 118 diff duties performed by at least 50% of the Ss. Duties were perceived from average to high in frequency, difficulty, and importance of performance. Spearman rank-order evaluative criteria $\underline{r}$ results showed a moderate relationship between frequency and difficulty, and difficulty and importance. Higher relationships existed between the frequency and importance of duties. No sig diffs were found through employment of ANOVA between the mean number of duties performed on the selected background variables of sex, size of school, and sport. A comparison between duty categories on time involvement and number of duties revealed the greatest number of duties were in sport administration while the greatest time involvement was with team functions.

519. TAYLOR, Martha Sue. The use of microteaching to aid preservice physical educators in the acquisition of a variety of teaching strategies as identified by the amount and kind of student decisions. Ed.D. in Physical Education, 1977, 211 p. (R. McGee)
A method of using microteaching in the acquisition of knowledges and skills relative to the use of varied teaching strategies was investigated. Strategies were identified by amount and kind of student decision making. An incidence chart was designed to record decisions as either procedural or performance. Following work with a training judge and tapes, the Bijou Reliability Index was used to indicate superior objectivity. 3 model tapes, each demonstrating designated teaching strategies for a lesson, were prepared

and then validated by a panel of judges. A 70% interjudge agreement score, using the Reliability Index, was chosen as the acceptable standard. The 5 Ss each taught a base lesson which served as a reference point and an introduction to microteaching. Each S followed the sequence of plan, teach, critique, and if necessary, replan, reteach and recritique for 3 lessons. Incidence charts were independently marked by Ss and supervisor during critique sessions. The supervisor's ratings indicated that, in the majority of the lessons, the Ss could control their teaching behavior as required. A comparison of supervisor's and S's charts, using the Reliability Index, established a percent of agreement score for each lesson. These scores demonstrated S's ability to identify and distinguish between types of decision problems.

520. TOBUREN, Karen R. Coincidence-anticipation tasks utilizing selected speeds, directions, and fielding sides in field hockey. Ed.D. in Physical Education, 1977, 87 p. (R. McGee)

The effects of selected stimulus speeds, angles-of-approach, and fielding sides on the accuracy of field hockey coincidence-anticipation performance for collegiate women field hockey team members and PE students were investigated (N=40). The task required the S to respond to a series of lights moving down a track. As the series of lights reached the final light, the S contacted the hockey ball at the end of the track with her stick. Ss responded to stimulus speeds of 10, 25, and 40 mph from right and left sides at reception angles simulating flat, diagonal, and through passes. Time diff (msecs) between arrival of light at a designated point and S response wi[illegible] stick against timing mechanism were recorded for al[illegible]als (18). The data were analyzed by ANOVA repeated m[illegible]ures nested design with fixed effects on all factors. A 3 X 2 X 2 ANOVA was utilized to determine between-group difference for speed x angle-of-approach x body side. Speed and side conditions differentially affected the performance accuracy of the 2 groups. Team members were sig more accurate at 25 and 40 mph and when fielding from the right. The performance of all Ss was most accurate at 25 mph and from the flat pass position.

521. TROSCLAIR, Kathleene A. Exploration of the development of an instrument to evaluate the volleyball forearm bounce pass utilizing serve reception. M.S. in Physical Education, 1977, 49 p. (R. McGee)

522. TUCKER, Marilyn Que. The comparison of attitudes of black and white high school students toward physical education. M.Ed. in Physical Education, 1977, 40 p. (R. McGee)

523. TUTHILL, Susan E. The health knowledge of senior health education majors at selected universities in North Carolina offering degrees in health education. M.Ed. in Health Education, 1977, 88 p. (G. Gilbert)

524. WANG, Beulah M. An ethnography of a physical education class. Ed.D. in Physical Education, 1977, 135 p. (G. Hennis)

525. WARDEN, Susan L. Humornonhumornon. M.F.A. in Dance, 1977, 38 p. (L. Andreasen)

526. WEINMANN, Carol A. The effect of two types of augmented feedback on self-reinforcement of high school physical education female students at two levels of self-esteem. Ed.D. in Physical Education, 1977, 90 p. (E. McKinney)

The purpose of this study was to determine if self-esteem and augmented feedback had an effect on the number of negative self-reinforcements which HS girls in PE classes would give themselves after they performed a novel motor task. 40 Ss were identified, from a sample of 312 HS girls, by scores on the revised Self-Ideal-Ordinary (SIO) Q-Sort. The 20 Ss scoring highest on the SIO were designated as a high self-esteem (HSE) group. The low self-esteem (LSE) group was made up of the 20 Ss scoring lowest on the SIO. A *t*-test of the diff between these 2 groups was sig ($p < .01$). The Ss were blocked randomly to 2 treatment conditions. 1 condition was augmented affective reinforcement (AAR); the other was augmented informational feedback (AIF). The exp included 2 phases. 1 was the training phase in which treatment was applied. The 2nd phase was a self-reinforcement one in which Ss made self-reinforcement statements in response to a view of their performances on a television monitor. A tape recorded interview of each S was carried out to help clarify subjective awareness and feeling. Analysis with a 2 x 2 factorial design revealed that negative self-reinforcement is a function of the level of self-esteem ($p < .05$) and that negative self-reinforcement is not a function of augmented feedback nor is a function of augmented feedback interacting with the level of self-esteem.

27. WILGUS, Anne G. Litany. M.F.A. in Dance, 1977, 47 p.
(L. Andreasen)

28. WULK, N. Gayle. Aesthetics of sport: A metacritical analysis. Ed.D. in Physical Education, 1977, 144 p.
is study attempted to analyze and synthesize the concepts f sport and metacritical aesthetics and to utilize that ilosophical base from which to speculate on the nature of metacritical aesthetic of sport. 2 complementary tools of ilosophical research were utilized: "theory building" as escribed by Fraleigh (1970), and "analysis of the structure f knowledge" as developed by Gowin (1969). The philosophcal and exp literature of aesthetics and sport was examined identify the major ideas and concepts associated with the eneral phenomenon of interest, sport; the source philosophy, etacriticism; and with the particular phenomenon of interest, aesthetic of sport. Beardsley's (1958) metacritical esthetic theory was selected as the source philosophy. ritical reasoning about aesthetic experiences presupposes eneral principles upon which judgments about particular xperiences deductively depend. Beardsley proposed the 3 lements of unity, intensity and complexity as the aestheticesignating factors on which judgments about particular esthetic experiences and works of art rely. The findings f the study disclosed that sport exhibited the aestheticesignating factors of unity, intensity and complexity as efined by the metacritical aesthetic theory. Sport, by the ature of the literature, was found to be properly designated aesthetic activity.

IVERSITY OF NORTHERN COLORADO (Mary A. Behling)
GREELEY, COLORADO

29. ALDER, Craig Eugene. Relation of structure to satisfaction, stress, and performance among athletic directors in senior colleges of the N.C.A.A. ed., in sport administration. Ed.D. in Health and Physical Education, 1977, 142 p. (R. Peterson)
upport was given to the theory that members of flat organiations tended to be more satisfied, less stressed, and more le to establish clear communication patterns in the ecision making processes. A random sample of 150 ADs was hosen from the NCAA member listing. Each director was sent questionnaire, and 100 responded. The Ss were asked to espond to statements concerning satisfaction, stress, and erformance. Principal axis factor analysis, with varimax otation, was the primary statistical tool used. Using this

statistic, 18 common factors were calculated from the 53 variable model ($R^2=.9088$). In order to indicate those variables contributing most to the model, the maximum R-square and stepwise regression techniques were employed. 8 variables ($p > .05$) contributed most to the model and accounted for 76.42% of the variance in the model. The 8 variables dealt with concurrent duties, no. of subordinates and superiors, being one's own boss, pay, research, planning and personnel activities involvement. Athletic DEPTs tended to be flat structures, and ADs were well educated, experienced and enjoyed their jobs. Time consumed by the job tended to interfere with the AD's family life. ADs were most satisfied and less stressed when superiors supported athletics.

530. HENSLEY, Dempsey L. The development of guidelines for the integration of mentally retarded persons into regular day and residential camps. Ed.D. in Health and Physical Education, 1977, 231 p. (N. Van Dinter)

A modified form of the Delphi Method was used to gather the opinions of a selected jury of persons possessing experience and knowledge in areas related to that being studied. This procedure involved the use of 4 sequential questionnaires to obtain a final group consensus on each of 170 sub-areas under the following 11 major areas of concern: basic goals and objectives of the integrated camp program; problems associated with integration; prerequisites for integration--retarded camper; prerequisites for integration--regular camp; retarded camper selection; staff training; grouping and staff/camper ratio; programs and activities; the mentally retarded as staff; evaluation; and, other factors to consider in the integrated camp program. The data from Questionnaire #4 were analyzed, and interpretations made to construct the guidelines. Jury members responded to the guidelines with 5 approvals and 1 disapproval. Among the major conclusions were the following: everyone involved in the integrated camping experience should benefit from it; major problems encountered revolve around ignorance and consequent negative attitudes of persons involved in the integrated experience; in general, the less severe the degree of retardation and the lower the CA (within camp limits), the greater the chances for successful integration; and, staff training is crucial.

531. SANFORD, Maurine E. The scope of interscholastic sports opportunities at the elementary, junior high and senior high levels and the status of coaching certification in the United States. M.A. in Physical Education, 1976, 68 p. (D. Phillips)

532. SHOEMAKER, Gary G. Leisure services as they exist for rural communities with less than 10,000 population in the West North Central United States. Ed.D. in Health and Physical Education, 1977, 210 p. (M. Shirley)

533. SNYDER, Glenn C. The effects of a values enhancement series in the affective domain of physical activity on the performance of students on the Personal Orientation Inventory (POI). Ed.D. in Health and Physical Education, 1977, 207 p. (M. Behling)

The effect of the "Snyder Values Enhancement Series" on Bluffton College Ss taking PE classes was measured. During the 1976-77 college year the POI and Snyder-Thurstone (ST) instruments were administered to N=170 Ss enrolled in PE classes at Bluffton, O. Random selection was used to place the Ss into exp and control groups during the 5 college calendar periods of the yr. The pre-test and post-test statistical computations were based on an N=88 Ss for the exp group and an N=82 Ss for the control group. Results were statistically treated with a Wilcoxon (z) Matched-Pairs, Signed-Ranks Test (W) and Spearman's Coefficient of Rank $\bar{r}$. The exp groups achieved 15 statistically sig W tests; the control group achieved 24 sig results ($p > .05$). The conclusions drawn were that the POI can be used to measure changes in Ss exposed to such PE experiences. Ss in exp and control groups experienced growth in self-actualization. The ST does offer a satisfactory alternative to administering the Inner Directed scale of the POI. Ss taking PE classes during the modules showed more sig increases in their scores than did their counterparts in the terms.

534. WEISHAUPT, Heidi M. The effect of interscholastic basketball competition on the self concept of high school girls. Ed.D. in Health and Physical Education, 1977, 80 p. (Betty Everett)

The effect of a single season of interscholastic basketball competition on the self concept of HS girls was studied using 154 varsity and junior varsity players who were members of a single conference in IA. The TN Self Concept Scale was used to measure self concept before and after the regular season. Data concerning varsity or junior varsity membership, regular or substitute status, no. of games team had won, and seasons of competitive basketball experience were gathered on each S. The *t*-test was used to determine if a sig diff resulted between pre-test and post-test TSCS scores, regular and substitute TSCS change scores, and varsity and JV change scores. The Kendall tau was used to determine if a sig relationship existed between TSCS change scores and no. of team victories or seasons of competitive experience. All results of statistical analysis were $p > .05$. The following conclusions were drawn: Competitive basketball experience does not appear to sig affect the self concept of players, competitive basketball experience does not appear to affect differently the self concept change of regular and substitute players or varsity and junior varsity players, there appears to be no relationship between no. of seasons of competitive experience and self concept change.

UNIVERSITY OF OREGON (E. Reuter)
EUGENE, OREGON

535. BANNISTER, Judy K. *An investigation of the interrelationships of the pelvic angle, lumbar angle, hip mobility and low back pain of college students majoring in dance*. M.S. in Dance, 1977, 54 p. (T. Faulkner)

536. BECKWITH, Lois. *A study comparing offspring of teenage mothers with offspring of mothers aged 20-29 on congenital defects and prematurity at birth*. M.S. in Health Education, 1976, 65 p. (L. Davis)

Comparison of offspring of teenage mothers (under age 19 years of age) with offspring of mothers aged 20-29 yrs of age on the basis of congenital birth defects and prematurity of their offspring at birth. The 2 samples, both containing 1,000 Ss were randomly selected from women giving birth in OR during the years 1971 and 1972. X^2 was used to test for sig ($p > .05$). The teenage Ss had a neonate malformation rate 3 times greater, and a prematurity rate 1.6 times greater than the older women's neonates. The teenage Ss also had a higher incidence of complications of labor and higher incidence of birth injuries. The teenage Ss showed a tendency to start prenatal care later than the older Ss. The highest prematurity rate was found among women with little or no prenatal care and lower educational levels. Due to the higher incidence of prematurity, malformations, birth injuries and labor complications among teenage offspring, preventive care and further research should be directed into reducing the growing no. of teenage pregnancy problems.

537. BOEKENSTEIN, Bronwyn. A study of the existence of attributes of the protestant work ethic in leisure participation. M.S. in Recreation, 1976, 89 p. (P. Ford)

10 concepts representative of the protestant work ethic were selected from the literature. A checklist questionnaire was developed around groups of leisure activities, a series of work-oriented alternatives for leisure participation (representing the 10 protestant work ethic concepts) and an equal no. of leisure-oriented alternatives. Ss were students (N=90) residing in the UO residential halls during the summer of 1976. Responses were analyzed by % and favored leisure-oriented alternatives (62.36%) over work-oriented alternatives (35.44%).

538. BRUNT, Denis. The validation and construction of a soccer test battery for male high school students at the varsity team level. M.S. in Physical Education, 1977, 57 p. (E. Summers)

539. CANALE, Suzanne W. A case study: Use of citizens band radios in nursing homes. M.S. in Health Education, 1977, 82 p. (L. Davis)

Case studies were done on 2 residents in each of 3 Eugene, OR nursing homes which provide citizens band (CB) radios for resident use. Information was gathered about communicating with CB radios in this setting. Data describing each resident's background, psychological status, and social interaction were gathered from interviews with the resident and sig persons. The resident's medical records were the major source of information regarding physical status. There was very little consistency in the characteristics of these 6 residents. CB radios served as an interesting additional activity for a few outgoing nursing home residents but had no obvious effect on increasing the social interaction of those studied. 4 of the 6 residents reported positive changes in self-perception since beginning to use the CB radio. A pre-post rather than reflective study may provide a more adequate indication of the value of this activity.

540. DAVIS, Michael S. The nature and incidence of injuries to the lower extremity of college soccer players. M.S. in Physical Education, 1977, 84 p. (E. Wooten)

541. EGAN, Sean. The effect of "in vivo" and "in imagination" systematic desensitization in the treatment of adult aquaphobics. Ph.D. in Physical Education, 1977, 82 p. (J. Adler)

The effectiveness of "in vivo" and "in imagination" systematic desensitization consists of relaxation training, construction of a hierarchy of fears and desensitization proper either "in vivo" or "in imagination". 2 treatment and 1 control groups were used. In group 1, Ss were treated using "in vivo" systematic desensitization; group 2 received "in imagination" systematic desensitization; i.e., Ss imagined themselves going through the hierarchy of fears rather than performing the steps live at the pool. The control group received no treatment. 4 tests were used to measure the amount of anxiety expressed by the Ss. 3 of the tests were state anxiety tests and 1 was a trait-anxiety test. The entire treatment lasted 3 wks. ANCOVA was used to determine which of the treatments led to the greatest reduction in anxiety. ANOVA was used to determine which of the treatments caused a sig improvement. The results indicated "in vivo" treatment to be superior to the other 2 treatments ($p < .05$); the "in vivo" treatment caused a sig improvement ($p < .05$); and the other groups showed no sig improvement.

542. FORREST, Cecelia. Ante-bellum: A choreographic thesis. M.S. in Dance, 1977, 81 p. (L. Hearn)

543. FRIEND, Karen J. K. A rationale for dance movement in the public schools. M.S. in Dance, 1977, 101 p. (L. Hearn)

544. GRUBER, Christine M. The effect of practice under audience and no-audience conditions on performance of a novel hand-eye coordination task. M.S. in Physical Education, 1977, 51 p. (J. Adler)

545. HOSETH, Paul E. The effect of a childbirth education course on specific stressors, related to the childbirth experience, in primi-para women. Ed.D. in Health Education, 1977, 93 p. (L. Davis)

The objective was to study the effect of the childbirth education course on specific stressors related to the childbirth experience. The sample was composed of 3 groups, an exp. group of couples enrolled in the Childbirth Education Association (CEA), a control group not in childbirth education, and a baseline group composed of women with no children who were not pregnant. A questionnaire was developed which included statements concerning the perceived stress level related to the childbirth experience. Class instructors were asked to rate the degree of emphasis concerning the class content and questionnaire. Data were analyzed using a t and ANOVA ($p < .05$). No sig diff in the levels of stress was found to exist between the pregnant Ss prior to CEA class or after their completion. The Ss in the CEA class did not demonstrate a sig reduction in stress as a result of taking the class. There was also no diff in stress levels from responses in the post-test among Ss in exp, control or baseline groups. High mean stress levels were found in the baseline Ss and indicated a strong need for education in the area of preparation for childbirth during the years of public education.

546. HOUSE, Karen. A comparison in effectiveness of camp counselors who have participated in a counselor-in-training program with camp counselors who have not. M.S. in Recreation, 1976. 42 p. (P. Ford)
Comparison of job effectiveness of camp counselors who had participated in counselor-in-training programs with the job effectiveness of camp counselors who had not participated in counselor-in-training programs was attempted. Camp Fire Girl camps located in OR were the sources of the 42 Ss used in this study. 21 had previously participated in a counselor-in-training program and the comparison group of 21 had not. The evaluation instrument used was a rating scale of 11 performance objectives. The scoring was done on a continuum scale. Tests of significance were applied to the relationship found in comparing the 2 groups' end-of-season evaluation scores. In the comparison, the null hypothesis, that there was no significant difference between groups, was rejected ($p < .05$) in 5 out of 11 items as well as in the total score.

547. HYLTON, Frank G. Affective movement response to mood inducing musical stimuli: An experimental study. M.S. in Dance, 1977, 61 p. (J. Descutner)

548. JACKSON, Cheryl A. A descriptive evaluation of the "Five-Day Plan to Stop Smoking" in the Eugene area. M.S. in Health Education, 1976, 146 p. (L. Davis)
5 stop smoking clinics conducted during April through Nov. 1976 were evaluated at termination using a questionnaire. 2 clinics' successful participants were contacted by a telephone interview at 3, 6, 7 mos. to determine their smoking status. Overall success % for the 152 participants who

attended 3 or more sessions was 67.8% at clinic termination. Demographic and clinic evaluative data were collected from 123 participants. A X^2 test revealed that success rates were higher for males than for females and the success rates were not consistent for all clinics. Of those who attended 3 or more sessions, 32.1% were not smoking 6 mos. following the April clinic. At 3 and 7 mos. following the May clinic, 15.8% and 10.5%, respectively, were not smoking. The program appears to be quite effective at termination. Recommendations were included to help increase long-term smoking cessation.

549. JEANS, Elizabeth. Zealots: A choreographic thesis. M.S. in Dance, 1976, 93 p. (L. Hearn)

550. JENSEN, Brian J. A comparison of simple reaction time to a moving visual stimulus in central and peripheral vision between athletic and non-athletic college women. M.S. in Physical Education, 1977, 41 p. (J. Adler)

551. KANG, Sinbok. An evaluation of intramural programs in selected universities of the Pacific Southwest and proposed guidelines for Korean colleges and universities. Ph.D. in Physical Education, 1977, 268 p. (J. Borchardt)

Institutions evaluated were 9 selected universities in the Pacific Southwest. The evaluation of the programs was conducted according to a slightly modified version of the McKillip Score Card. A 2 day personal visit was scheduled at each institution. The method of scoring was based on the instructions and standards prescribed in the score card. An arbitrary rating scale was used in evaluating the degree to which the programs corresponded to the standards of the score card. Totals, %, and ratings for the major areas of the score card were computed so that strengths and weaknesses of program could be identified. Recommendations were made for further improvement of the programs at each institution evaluated. In general, the total program of intramurals was rated above average in all institutions. A survey was undertaken in order to obtain related information concerning the status of the programs in Korean universities. A questionnaire was developed and mailed to 16 institutions in Korea. On the basis of current information and the survey data collected in the US and in Korea, guidelines were set forth for Korean colleges and universities.

552. KANTOLA, William W. Opinions and preferences of visitors toward alternatives for limiting use in the backcountry of Sequoia and Kings Canyon National Parks. M.S. in Recreation and Park Management, 1976, 83 p. (P. Ford)

Overnight backcountry visitors (N=1248) to Sequoia and Kings Canyon National Parks were asked their opinions and preferences toward alternatives for limiting backcountry use. The alternative receiving the most widespread support, 81% in favor, was that minimum impact be required through stronger pollution laws and enforcement. A majority of visitors were opposed to a lottery system for obtaining wilderness permits and to a charge for entering the backcountry, 81% and 74%, respectively. The visitors prefer a trailhead control management system in which 1/2 of the permits are issued based on reservations and 1/2 of the permits are issued to those who wait a turn in line. In the system, some of the permits should be mailed to the visitor in advance of the wilderness trip while the remainder of the permits should be issued at trailhead contact stations. Visitors also prefer that group size be limited to 15 persons.

553. LEARY, John E. A comparison between normal and overweight women on reasons for eating, restraint in eating, and attitude toward obesity. Ed.D. in Health Education, 1977, 113 p. (L. Davis)

A technique was developed which would help identify problematic reasons for eating and attitudes that may lead to overwt and obesity. The study consisted of 150 females (college students, secretaries and librarians, wt control groups and homemakers) and were divided between under-25 and over-25 years of age. Ss were separated into normal, overwt and obese wt groups and into restrained and unrestrained eating groups. The data were collected through the use of a questionnaire. The restrained group scored sig higher on the combined reasons for eating scales than the unrestrained group and college-age females (17-25) scored sig higher than the beyond-college-age-females (26-65) on this same measure. Higher scores meant there was a tendency to eat for reasons other than hunger. The obese Ss were found to be the least tolerant of obesity. Within all 3 wt groups, wt was sig correlated with restraint in eating, as wt increased the degree of restraint increased. Interviews with 6 Ss verified that the testing instruments accurately identified their degree of restraint and attitudes toward obesity and reasons for eating. The reasons for eating scale would be useful in diagnosing problematic reasons for eating in a counseling relationship.

554. LIDDELL, Gene C. The relationship of Washington State school principals' attitudes toward health education to the status of their school health education program. M.S. in Health Education, 1977, 73 p. (L. Davis)
The relationship of WA State school principals' attitudes toward HE to the status of their school HE program was determined. Ss of the study were 36 school principals-- 12 ELE, 12 JHS and 12 SHS principals. These principals were randomly selected and represented a cross-section of the schools in the state. 2 instruments were utilized to gather information and data for this study. Zacour's Items Pertaining to Health Teaching was used as the attitude test toward HE. Lee's Status Questionnaire of School HE Programs was conceptualized and used in a personal interview with each school principal. The findings and conclusions of this study include: no sig diff among the attitudes of ELE, JHS and SHS principals toward HE, status of HE programs in the status of all 3 levels have no sig diff, sig relationships exist between ELE principals' attitudes and status of program, sig relationships exist between JHS principals' attitudes and program status, and regions with health coordinators had higher status HE programs than regions without coordinators.

555. MATHIAS, D. Wayne. An evaluation of the outward bound solo experience as an agent in enhancing self concepts. M.S. in Recreation, 1977, 86 p. (P. Ford)
Whether student self concepts are enhanced following participation in an Outward Bound solo experience was determined. The total enrollment of a Northwest Outward Bound standard course was randomly divided by patrol into exp and control groups. The Counseling Form of the TN Self Concept Scale (Fitts 1965) and a scaled-down version of Goldberg's Self Descriptive Inventory were administered to control Ss before the 3 day solo experience and to exp Ss following the solo. Statistically sig increases were found on 4 of 10 self-concept measures on the TSCS, and on 1 content score, 2 social desirability scores, and 2 opposing descriptor scores from a total of 13 measures of self concept on the Self Descriptive Inventory.

556. MILLER, Raphael F. A comparative study of the technical and stylistic achievement of students with dance experience and students without dance experience enrolled in a beginning course of dance and mime. M.S. in Dance, 1977, 79 p. (T. Faulkner)

557. NOGRADI, George S. An analysis of existing relationships between the administrative processes and organizational commitment and job involvement of recreational staff members within Mental Health Centers across Canada. Ph.D. in Physical Education, 1977, 168 p. (B. McCue)

34 supervisors and 132 staff members responded to the mailed questionnaires containing the Profile of Organizational Characteristics--Form S, Organizational Commitment Instrument and Job Involvement Scale. These scales measured 6 independent variables (administrative processes) and 2 dependent variables (commitment and involvement). The results indicate that REC depts operate within 2 managerial climates: consultative (67.6%) and participative (32.4%). Discrepancies between supervisor and staff member perceptions of these climates occurred only in the consultative group ($p < .05$). No diffs were noted between the supervisors' and staff members' degree of commitment and involvement within either of these climates. However, the staff members in the participatory group had a higher degree of commitment ($p < .05$) and involvement ($p < .11$) than the staff members in the consultative group. This supports previous findings that the participatory style of management is generally associated with a higher degree of desirable organizational outcomes. The regression analysis indicated that the administrative processes accounted for a larger share of the variance in commitment (28%) than in involvement (12%). Thus, the administrative processes appear to have some potential for the development and maintenance of commitment but not for involvement.

558. O'DONNELL, Robert B. The effect of long term exercise upon percent body fat, resting heart rate and submaximal heart rate. M.S. in Physical Education, 1977, 17 p. (E. Evonuk)

559. PETRACEK, Raymond S. The effect of three assessment feedback schedules on attitude toward physical activity and self concept. Ed.D. in Physical Education, 1977, 169 p. (B. McCue)

The effect of low, intermediate, and high regularity assessment feedback frequencies on the attitude toward physical activity and self concept of 899 Ss in 20 normal 7th grade and 21 normal 8th grade classes was investigated. Measures were provided by Kenyon's Attitude Toward Physical Activity Scale--Semantic Differential Form, Piers-Harris Children's Self Concept Scale, and CAHPER Fitness Performance Test Battery. Ss on the low regularity assessment feedback schedule received their fitness test results at the beginning (0 wks) and the close (12 wks) of the study. Ss in the intermediate regularity assessment feedback group received their fitness test results at the beginning, after 6 wks, and at the close of the study. Ss on the high regularity assessment feedback schedule received their fitness test results at the beginning, after 4 wks, after 8 wks, and at the close of the study. 1-way ANOVA indicated that frequency of assessment feedback was not a sig factor ($p > .05$) in either the formation of positive attitudes toward physical activity or positive self concept development of the 7th grade nor 8th grade classes nor of the girls in those classes nor of the boys in those classes.

560. PHILLIPS, George F. Expected and observed frequencies of world record performances in track and field occurring under various biorhythmic conditions. M.S. in Physical Education, 1977, 53 p. (E. Wooten)

Data for 180 world record performances in track and field were examined, with each performer classified as being in a positive, negative, or critical phase in each of his 23-day physical, 28-day emotional, and 33-day intellectual biorhythm cycles. X^2 was used to determine whether a sig diff existed between the frequencies of world record performances occurring under various biorhythmic conditions and the frequencies predicted by random probability. World records in track and field events as a whole were not found to occur during various biorhythm phases any more often than expected. However, a sig high frequency of world records in the sprinting and hurdling events occurred during emotionally positive periods of the athlete. Also, an unusually high no. of athletes setting world records in the jumping events (long jump, triple jump, high jump, pole vault) were in the 14th to 22nd days (negative phase) of their 23-day physical cycle. This finding is contradictory to what the proponents of biorhythm theory would suggest. The overall results suggest that the biorhythmic condition of a track and field athlete is not a sig factor in influencing world-record-class performances.

561. RAJ, David M. J. *The origin and the historical development of Silambam fencing: An ancient self-defense sport of India*. Ph.D. in Physical Education, 1977, 154 p. (B. McCue)

Library research and interview methods were used in tracing the origin and history of Silambam fencing, a dueling sport, the weapon being a bamboo cane. The 3 Sangam eras and the sea trade of Tamil kingdoms of Dravida Nadu, India provided a background for this study. The origin of Silambam was traced to Paleolithic time while its development was studied to the present time. The 20th century A.D. was dealt into 4 sections, namely the pre-independent period (1900 to 1946) and the 3 post-independent decades: (1947-1957), (1957-1967) and (1967-1977), the so-called "golden decade" of Silambam. The etymology of the Tamil word for Silambam, the traditional practices, REC aspects and the contribution of diverse castes on Silambam had also been presented. The study concluded that Silambam might have its origin in the Dravidian pre-historic tribes, the Pandya kingdoms, Sage Agasthiyar and his school of Agasthiyars. Silambam fluorished as martial art in warfare, Temple festivals, and as a competitive sport in Silambakoodams, akin to our modern gymnasia.

562. SENOSK, Elaine M. *An examination of outdoor pursuit leader certification and licensing within the United States*. M.S. in Physical Education, 1977, 115 p. (P. Ford)

563. THOMAS, Carol E. *Attitudes of high school girls and boys toward physical education as related to either a coeducational or a separate program*. M.S. in Physical Education, 1977, 100 p. (E. Reuter)

564. THOMPSON, Peter J. L. *A biomechanical evaluation of the treadmill as a simulator of overground running*. M.S. in Physical Education, 1977, 61 p. (B. Bates)

565. VANDERBECK, Edna R. *Instructional materials for recognizing and analyzing errors in swimming: Films of errors in the front crawl and sidestroke*. Ph.D. in Physical Education, 1977, 220 p. (B. McCue)

To bridge a gap in available instructional materials, narrated films were created to aid teachers in developing the skills of detecting and analyzing errors in swimming. Errors in the front crawl and sidestroke were identified from current literature. Ss were college students in intermediate to advanced swimming classes, selected for the presence of specific, identified errors in their swimming styles. Films of the Ss were organized into sequences consistent with common teaching strategies. For comparison with the errors, demonstrations of more efficient styles were inserted in the sequences. 49 experienced teachers evaluated the films using a Likert-response opinionnaire. X^2 for goodness-of-fit indicated that experienced teachers approved the concept of error-detection and error-analysis instruction in the preparation of teachers of swimming and approved the narrated films as useful instructional instruments. The most experienced teachers attributed the greatest importance to the role of error-identification in teaching. The least experienced teachers were less perceptive and less discriminating in recognizing time-imposed shortcomings of the films. These diffs between highly experienced and minimally experienced teachers supported the initial premise that novice teachers are not well prepared in the area of detecting and analyzing errors in swimming.

566. WALDENBERGER, Robert W. An analysis of leader behavior, group interaction and organizational climate in physical education departments of selected Canadian universities. Ph.D. in Physical Education, 1975, 137 p. (B. McCue)

A total of 20 PE department chairmen and 161 faculty members provided information on their perception of Leadership Behavior, Least-Preferred Co-worker, Group Atmosphere, Leader Authority, and organizational climate in their departments. The results of the investigation indicated that the leaders of the departments were structured and considerate, had good leader-member relationships, felt that they exercised more authority than thought to be the case by the faculty member, and perceived the climate of the dept more favorably. The pleasant, satisfying climate within the dept as a measure of openness had a sig, positive $\underline{r}$ with the leader's considerate behavior and the open and sharing atmosphere within the group and correlated negatively with the amount of authority the leader had.

567. WALLACE, John E. Machiavellianism among male and female adolescent sport participants and nonparticipants. M.S. in Physical Education, 1977, 63 p. (J. Santomier)

568. WATKINS, Michael P. A choreographic thesis: Dances my mother never taught me. M.S. in Dance, 1976, 52 p. (L. Hearn)

569. WHITE, Diane L. A study of body composition and its effects on the menstrual cycle of distance runners. M.S. in Physical Education, 1977, 59 p. (E. Wooten)

UNIVERSITY OF SARASOTA
SARASOTA, FLORIDA

570. MOSELEY, Mary L. A proposed CBTE curriculum for the teacher preparation of special physical educators at the undergraduate level. Ed.D. in Special Education, 1977, 146 p. (J. French)
The proposed curriculum utilizes a model which projects 5 clusters of competencies suggested for exit to a final yr of practicum and research experiences. These clusters are identified as: self-awareness: the "I" concept; other awareness: the "Thou" concept; interaction: the "I-Thou" concept; assessment: the "I-Measure-Thou" concept; and delivery modes: the "I-Teach Thou" concept. Each cluster suggests preassessment techniques, learning experiences, theoretical seminars and laboratory assessment. 20 exit competencies for each cluster comprise the Professional Portfolio of the student. Within the limits and designs of this study it was concluded that a competency-based teacher education curriculum in special PE at the undergraduate level is a viable possibility.

UNIVERSITY OF SOUTHERN MISSISSIPPI
HATTIESBURG, MISSISSIPPI

571. GRAY, Michael E. The effect of three modes of aerobic training on cardiovascular endurance. Ed.D. in Physical Education, 1977, 84 p. (B. Slay)
The problem considered here was the effects of cycling, jogging, and swimming on cardiovascular endurance and to determine if one of these modes is more sig than the others in improving cardiovascular endurance. The Ss used were 102 college men and women enrolled in the basic PE classes at USM ranging in age from 17 to 29 yrs. They were allowed to select the training mode they desired. These 3 major groups were then divided into 2 subgroups each. The 2 subgroups for each training mode were designated exp and control subgroups. The 3 exp subgroups were given exercise HR formulas (amt. of time, days/wk, and HR to be maintained) to maintain on the

training days. The 3 control subgroups exercised at their own pace on the training days. The cardiovascular fitness level of each S was determined by the Balke Treadmill Stress Test. The length-of-treadmill-time variable was obtained by use of a pre- and post-test on the treadmill. The 3 major groups met with the investigator for 40 min., 3 days/wk, for 7 wks. The treadmill time variable was subjected to a 2-way ANCOVA for the 3 major groups and the individual control and exp subgroups. A correlated *t* was used for total group pre- and post-test means. Nonsig ($p > .01$) was found for major group and subgroup adjusted means by ANCOVA. The correlated *t* revealed sig ($p < .01$) for total group pre- and post-test means. Conclusions drawn were that a program of cycling, jogging, and swimming will produce sig cardiovascular improvement when done 3 days/wk for 7 wks; there will be no sig diff over which mode of training is used; and no sig diff in the training method used per mode.

UNIVERSITY OF UTAH (Robert O. Ruhling)
SALT LAKE CITY, UTAH

572. BATTAGLIA, Rose M. *A comparison of motivational traits of selected community college female athletes with other selected groups of athletes*. Ph.D. in Physical Education, 1976, 85 p. (K. Henschen)

573. BELK, Lyle V. *An assessment of patient origin-destination and level of care patterns in nursing homes for the state of Utah during the years 1974 and 1976*. Ph.D. in Health Science, 1977, 118 p. (R. Dwore)

574. BELL, Carolyn K. *A score card for use in evaluating physical education leaders*. Ph.D. in Physical Education, 1976, 128 p. (N. Neilson)

575. DeJOSEPH, Jeanne F. *Selected correlates of androgyny*. Ph.D. in Health Science, 1977, 89 p. (M. Kreuter)

576. FRETWELL, Armeda F. *Efficacy of a patient activation health education program for elderly women*. Ph.D. in Health Science, 1977, 158 p. (M. Kreuter)

577. FRYE, Andrea J. *Effect of red blood cell reinfusion and exercise on hemoconcentration and aerobic capacity*. M.S. in Physical Education, 1977, 72 p. (R. Ruhling)

578. GROB, Gary R. Duties and responsibilities of an academic recreation department head. Ph.D. in Leisure Studies, 1977, 281 p. (L. Rockwood)

579. HELM, Jolene D. Personality predictors of accident tendencies in construction workers. Ph.D. in Health Science, 1977, 156 p. (R. Dwore)

580. JAMES, Gordon B. The effects of a health activation program on selected junior high school students in Utah. Ph.D. in Health Science, 1977, 321 p. (M. Kreuter)

581. JOHNSON, Raymond F. An assessment of selected variables related to smoke stopping success and smoke stopping failure. Ph.D. in Health Science, 1977, 124 p. (M. Kreuter)

582. LONG, Louie J. The influence of collegiate football coaches in their players' personalities. Ph.D. in Physical Education, 1977, 228 p. (J. Ewers)

583. PETERSON, John E. The comparison of two educational delivery systems used for continuing medical education in gerontology. Ph.D. in Health Science, 1976, 270 p. (M. Kreuter)

584. PLUMMER, Deborah L. Personality characteristic relationships between participating and nonparticipating women physical education majors in extramurals. M.S. in Physical Education, 1976, 64 p. (K. Henschen)

585. SCHOFIELD, Wendy D. Effects of a Scoliosis screening program in a Utah public school system. M.S. in Physical Education, 1977, 56 p. (R. Ruhling)

586. SMITH, Della J. L. Knowledge and attitude toward pregnancy and childbirth. M.S. in Health Science, 1976, 51 p. (N. Randall)

587. Van METRE, Patti R. An accuracy assessment of the medical supplement to the Utah live birth certificate. M.S. in Health Science, 1977, 81 p. (M. Kreuter)

588. WILSON, William M. The impact of two-way radio on the medical practice of a remotely deployed physician's assistant. Ph.D. in Health Science, 1977, 108 p. (R. Dwore)

589. YOUNG, Robyn. Anthropometric, flexibility and strength measurements in dancers with the snapping hip. M.S. in Physical Education, 1977, 55 p. (M. Jacobs)

UNIVERSITY OF WESTERN ONTARIO (A. V. Carron)
LONDON, ONTARIO, CANADA

590. BARRAS, Brian. The palpation accuracy and exercise prescription of post-myocardial infarct patients in an exercise program. M.A. in Physical Education, 1977, 113 p. (M. Yuhasz)

Exercise training intensity, as indicated by HR, was monitored by telemetry during a supervised and a non-supervised workout for 20 post-myocardial infarction patients in the Ontario Exercise-Heart Collaborative Study. The average training intensity of the supervised workout (143 BPM) was found to be sig higher than the work intensity during a non-supervised workout (134 BPM). Each S completed a standard continuous multi-stage bicycle ergometer test as well as a similar treadmill test for the purpose of arriving at an exercise prescription for cardio-respiratory endurance training. The treadmill test was found to predict higher exercise prescriptions than did the standard bicycle ergometer test and these higher prescriptions seemed better estimates of the average S's potential as indicated by performance in the supervised and non-supervised workouts. The majority of Ss were able to palpate their exercise HRs quite accurately immediately after the cessation of exercise. The few Ss who were continually inaccurate in their ability to palpate HR demonstrated a wide inter-individual variation, but intra-individually erred unidirectionally and with consistent magnitude.

591. CHISHOLM, Barbara. An analysis of the internal communication structure of a provincial administrative centre for amateur sport. M.A. in Physical Education, 1977, 170 p. (E. Zeigler)

The prevailing communication patterns within the Ontario Sports Administrative Centre and Sport Ontario were described. 55 personnel affiliated with the 2 organizations served as Ss. Each S received a "communication structure questionnaire" and a "personal data check list". Documentary analysis and planned interviews with the management personnel were other techniques employed. The data were analyzed by 1st-, 2nd-, and 3rd-order matrix analysis, clique analysis and content analysis. The following conclusions were reached: either key communicators or liaison personnel were found in each unit based on the findings revealed in the matrix. These key communicators and/or liaisons were witnessed in most of the vital roles (7 of 12) in the formal structure, the analysis of the first-order matrices revealed that on a direct basis, interpersonal communication was low, the analysis of the 2nd- and 3rd-order matrices revealed that on an indirect basis, interpersonal communication bonds were exhausted, the perception of the no. and frequency time period of an individual's contact communication bonds is unreliable, units utilize a greater % of their possible contacts within their respective units than between them, sex, previous experience and office location were found to be sig factors in the formation of communication channels, the management of the organizations developed a very extensive and thorough communication structure from within which they can reach 100% of their communicating organizational members via the "2-step" channel.

592. DAY, Robert. Impulse to addiction: A narrative history of sport in Chatham, Ontario, 1790-1895. M.A. in Physical Education, 1977, 530 p. (R. Barney)
The purpose of this thesis was to trace the historical development of sport in Chatham, Ontario between 1790 and 1895. Prior to 1870, Chatham townspeople strove to establish a viable settlement from the wilderness. Little time was available for recreative and sporting pastime. With permanent establishment, leisure time increased and recreational and sporting activities became commonplace. Information pertinent to the study was obtained largely from newspaper sources contemporary to the period. Published works, unpublished materials, personal interviews and a survey of artifacts supplemented and complemented the primary evidence. The following conclusions were presented: (1) the Thames River, flowing as it did through Chatham, was an important stimulus in the development of both winter and aquatic sports, (2) technological developments, particularly in the form of the steamboat, railroad (Great Western) and steam press were critical in the expansion of Chatham sport, (3) immigration affected the nature of Chatham sport, particularly as a major influx of Britons in the 19th century created a strong British orientation toward sports activity (however, Negro immigration to Chatham in large numbers after 1840 had little influence on Chatham's sport development), (4) in

general, the Lord's Day Act (Sabbatarianism), an important and controversial issue in 19th century Canadian sport, was observed by Chatham sportsmen, and (5) geographically, particularly as reflected in Chatham's proximity to cities in the U.S., a distinct role was played in the latter part of the century towards beginning to create an "Americanization focus" to Chatham's sport portrait.

593. FRASER, Peter. Sex-role development of high school male athletes and non-participants. M.A. in Physical Education, 1977, 54 p. (A. Carron)

The effects of athletic participation and age on sex-role identification in high school aged males was investigated. The Bem Sex-Role Inventory was administered to 240 athletes and nonparticipants in grades 9 to 12 (N=30 each). The results revealed sig increases over the 4 grades for both femininity and androgyny. The *post hoc* test revealed sig diffs existed between the level of femininity in grade 9 and that in each of the other grade levels. For androgyny, the value present at grade 11 was sig less than at each of the other grade levels. A sig diff was found between athletes and nonparticipants for both masculinity and androgyny, with athletes being more masculine and less androgynous. Finally, it was found that the interaction between athletic participation and school grade was nonsig for masculinity, femininity, and androgyny. It was concluded that for males, the masculine component for sex-role identification has been completed prior to high school entrance. Femininity continued to increase and thus, the male Ss became more androgynous over time. Further, the original high level of masculinity allowed for an increase in the level of expressed femininity. Athletes were more masculine and less androgynous than nonparticipants. However, for both athletes and nonparticipants, sex-role development followed a general pattern of high masculinity, increasing femininity, and a gradual increase of androgyny.

594. KRKAL, Karel. An experimental study of the development of the nature form of the overarm throwing pattern in preschool children. M.A. in Physical Education, 1977, 84 p. (D. Milne)

The effects of instruction upon the development of the mature form of the overarm throw in preschool children and the relationship between the age of the Ss and their ability to acquire a mature throwing form was investigated. Possible sex diffs in the ability to acquire the mature form were noted. 57 Ss (aged 34 to 65 mos) were equally divided into 2 exp and a control group. The children were screened on their overarm throwing pattern and only those who performed at Stage I were included in the study. Both exp groups received 12 20-min training periods in a span of 6 wks. 1 exp group was taught the mature Stage V directly, while the other was taught sequentially from Stage II onward. 1 post-test was carried out immediately after the training period; the 2nd, 17 wks later. The study indicated that Stage V was too advanced to acquire for all the Ss from either exp group. The results further showed the 2 teaching methods made little difference regarding the time required to attain the mature stage of overarm throwing. The correlation between the age of exp Ss and the ability to attain mature stage was positive but low.

595. KITCHEN, Patricia. A socio-economic analysis of parents of competitive swimmers in Ontario. M.A. in Physical Education, 1977, 205 p. (R. Eynon)
The socio-economic characteristics of parents whose children are C.A.S.A. swimmers and the expenditures in terms of time and money made by them for their competitive swimming children was described. Questionnaires were mailed to a proportionate stratified sample of 400 families of competitive swimmers across Ontario. It was found that, when compared to the Ontario population, competitive swimmers were from the upper middle ranks in terms of parental occupation, income and education. The total expenditures and time spent by the parents were greater for those whose children were young and also for those whose children were of a high ability (i.e., close to the Ontario record). Spearman rho analyses suggested that membership fees for swim clubs across Ontario are not determined on the basis of age, ability, no. of practice hrs or no. of swim meets. Finally, the better calibre swimmers were not necessarily from upper socio-economic families.

596. MATHESON, Lorilee. Selected physiological, anthropometric and skill variables contributing to success in 10-12 year old female competitive swimmers. M.A. in Physical Education, 1977, 182 p. (R. Eynon)
The relationship between swimming and selected physiological, anthropometric, developmental and skill variables in 10-12 yr old ($\overline{X}$=11.3) female competitive swimmers was determined. 40 girls were measured on several selected variables. Each also completed a 400-yd and 50-yd time trial. The data were initially examined by means of a Pearson r matrix. Subsequently, the swimmers were classified into a top and bottom group. This was done both by disregarding the influence of age and maturity and also by controlling for these factors.

The 2 groups, in both instances, were compared by means of a stepwise multiple discriminant function analysis. The intercorrelation matrix indicated that the best single predictors of swimming performance were ht, aerobic capacity and stroke efficiency. When the better swimmers were compared to the poorer, however, the importance of physiological parameters disappeared. Body size, skill and exposure to swimming were the most sig group of factors in differentiating between the 2 classes of performers. These explained over 60% of the variance and correctly classified over 85% of the cases both when age and maturity were controlled and not controlled.

597. PARKER, Bonnie. Work capacity and body fat in retarded and nonretarded children. M.A. in Physical Education, 1977, 248 p. (F. Hayden)

PWC_{170}, PWC_{170}/kg, % body fat and resting HR were assessed in 80 trainable retarded and 80 nonretarded children, 12 to 15 yrs of age. Physical activity level was evaluated in 70% of this sample. The IQ of the retarded ranged approximately from 40 to 60. Overall S loss was 30% in the mentally retarded sample. S loss on testing (outside of prescreening loss) was 15%. Testing loss in the Down's syndrome subsample was 31% which was considerably higher than that in the non-Down's retarded. PWC_{170}, PWC_{170}/kg of retarded children was sig lower than that of the nonretarded. Mean PWC_{170} diff in males was approximately 14%, and 10% in females. PWC_{170} per unit body wt was 9% lower than the nonretarded in both retarded males and females. Intercorrelations of PWC_{170} and PWC_{170}/kg with other fitness variables were similar for the retarded and nonretarded. Age/sex trends in PWC were also similar in the 2 groups. Retarded children had a sig greater relative body fat content than nonretarded children. Retarded males and females had a 5% and 9% greater body fat content than nonretarded males and females, respectively. No sig diff was noted in resting HR of the retarded and nonretarded. Mean HR was 85 bpm in both groups. Retarded children had a sig lower activity level than nonretarded children. Sig relationships were not established between PWC and % body fat with physical activity level, as assessed by the Physical Activity Questionnaire.

598. PATTERSON, Paul. The effect of a combined electrostimulation and isokinetic training technique on the strength and hypertrophy of the quadriceps muscle. M.A. in Physical Education, 1977, 114 p. (J. Stothart)

Whether the 2 exercise methods of isokinetics and electrostimulation could be combined into a single exercise method which is superior to either of the 2 individual methods was determined. A 10-wk training study was conducted isolating the quadriceps muscle group in knee extension. College age football players were assigned to 4 different exercise groups: muscle electro-stimulation alone (ES, N=8), isokinetics alone (IKM, N=9), muscle electro-stimulation and isokinetics combined (ES + IKM, N=9), and a control group (C, N=9). The specific apparatus involved was the Orthotron isokinetic knee machine, and a Nemectrodyn II interferential muscle stimulator. The parameters under study were changes in fat-corrected girth (at the level of the gluteal fold and -10 cm above the proximal aspect of the patella), dynamic force production during knee extension, and static force production at 135° of knee extension. The combined treatment (ES + IKM) was the most effective in eliciting increases in dynamic force production as represented by % change from pre-test II to the post-test. The isokinetic treatment (IKM) was equally as effective as the muscle electro-stimulation treatment (ES) in increasing dynamic force production but both were sig less effective (a=.05) than the combined treatment (ES + IKM). All exercise groups were superior to the control group (C) in producing dynamic strength increases. All exercise groups were sig superior in terms of static force production performance, compared to the control group, but diffs between training methods were not statistically sig $(p > .05)$.

599. READY, A. Elizabeth. The effect of interval training and detraining on anaerobic fitness in women. M.A. in Physical Education, 1977, 148 p. (R. Eynon)

The effect of 6 wks of training and 2 wks of detraining on anaerobic capacity was monitored. The effect of the program on max aerobic power was of secondary importance. 17 female volunteer Ss were divided randomly into either an exercise or control group. The training sessions consisted of 10 1 min supramax bicycle ergometer rides which were separated by 1 min rest periods. The program was repeated 3 days a wk for 6 wks. Prior to, during, and post training, Ss were tested on both a max aerobic and anaerobic bicycle ergometer ride. Sig changes in aerobic, anaerobic and performance variables occurred in the exercise group. Peak blood lactate, max O_2 debt, and performance time all increased substantially $(p < .05)$. Max VO_2 was also affected by the training stimulus $(p < .05)$. Wt, hemoglobic and hematocrit were unchanged. During 2 wks of detraining, there was a sig decrease in max O_2 debt $(p < .05)$. Decrements in peak blood lactate, ride time and max VO_2 also occurred. Tests on 2 Ss after 4 and 8 wks of not training showed blood lactate and VO_2 max had returned to their original values. It was concluded that the physiological changes with training were reversed during a similar detraining period.

600. REMIGIS, Randy. The anaerobic capacity of young ice hockey players: 10-11 years old. M.A. in Physical Education, 1977, 138 p. (D. Cunningham)
The anaerobic capacity was measured for 31 boys ($\overline{X}$=10.8 yrs) selected from house (HL) and competitive (CL) ice hockey. The analysis of measurements made on the anaerobic treadmill and skating tests revealed 14% to 37% common variance. A R analysis showed that skating performance time was highly correlated (R=0.81) with treadmill performance time, when age and wt were also included as independent variables. CL boys were older than HL boys, possessed greater aerobic power, had a greater O_2 debt, and peak blood lactates on both the anaerobic treadmill test and skating test ($p < .05$). In addition, CL boys displayed sig better performance times on an anaerobic treadmill test, and skating test, as well as faster times in the skating trials. These diffs in both aerobic and anaerobic energy delivery systems may be the result of greater ice hockey participation by CL Ss, although diffs in genetic endowment cannot be discounted.

601. SEAMAN, Shaun. An analysis of completed doctoral research in physical education and sport philosophy. M.A. in Physical Education, 1977, 232 p. (E. Zeigler)
The purpose of the study was to compile, classify and abstract (according to a taxonomy which was developed and adopted for this particular study) the available doctoral dissertations written in the sub-disciplinary area of PE and sport philosophy. This taxonomy was based upon topics which seemed to be most frequently examined at the doctoral level, in this particular sub-disciplinary area. It was found that: not only was there enough variation in the topics of the dissertations to permit the development of a taxonomy which included a no. of separate categories, but that there was also a wide range of topics within each category; the no. of doctoral dissertations available for consideration within each category of the taxonomy varied greatly; the research methodologies and accompanying techniques employed by the investigators in this area varied greatly; and the findings and conclusions of the doctoral dissertations permitted the development of ordered generalizations in most categories.

602. SPINK, Kevin. Attribution and athletics. M.A. in Physical Education, 1977, 103 p. (A. Carron)
The purpose of the investigation was to examine the effects of decisiveness of immediate outcome, previous history of performance success, basketball competency, achievement motivation and situational importance on mode of causal attribution in high school basketball players. A modified Lynn Survey of Achievement Motivation was administered to the athletes on 14 teams (N=172) of senior HS basketball players as well as an attribution questionnaire designed to measure causal attributions to ability, effort, task difficulty, luck and officiating. With regard to immediate outcome, it was found that attributions were made to internal factors under win conditions and external factors under loss conditions. Outcomes that were consistent with a team's past history (a win-win or loss-loss sequence) were attributed to stable factors; inconsistent outcomes to unstable factors. Both competent and less competent athletes attributed winning internally and losing externally. Also, both achievement groups attributed a win to ability and effort and a loss to task difficulty and a lack of effort. Attributions to internal factors were revealed to be more prevalent in playoff conditions than in regular league contests. It was observed that officiating was not endorsed as a causal attribute in any of the specific situations examined.

603. WALSH, John M. Attributes of volunteer coaches. M.A. in Physical Education, 1977, 60 p. (A. Carron)
The present study contained 2 major problems and 1 sub-problem. The first problem was to compare the degree of Machiavellianism (using the Mach V scale) present in 3 groups of coaches: PE coaches (N=31), non PE coaches (N=59), volunteer community coaches (N=41) and a control group of non coaching teachers (N=35). The 2nd problem was to determine if these 4 groups differed in regards to the attributes they ascribed to the target stimulus "coaches" (using the Personal Attribute Inventory). As a sub-problem, the 3 groups of coaches were compared on the variables of yrs coaching experience and win-loss ratio to determine if these had an interactive effect upon Machiavellianism. It was concluded that volunteer community coaches are lower in Machiavellianism than non coaching teachers, non PE coaches, and PE coaches. Also, level of Machiavellianism is unrelated to diffs in win-loss record, no. of yrs coaching, and no. of yrs as head coach. However, Machiavellianism does show decreases with increases in age. Finally, there are no diffs among volunteer community coaches, non coaching teachers, non PE

coaches, and PE coaches in either the total no. or the specific positive and negative attributes endorsed for the target stimulus "coaches".

604. WHITE, Scott. The olympic lifts: A kinetic model analysis of intervertebral stresses. M.A. in Physical Education, 1977, 142 p. (J. Stothart)
The intervertebral forces present at the lumbosacral joint during successful completion of the Olympic lifts, "The Two Hand Snatch" and "The Two Hand Clean and Jerk" was studied. 2 Ss performed the Olympic lifts at 2 loads. Cinematography was the medium of spatial data collection. A deterministic kinetic model was used to calculate the magnitude and direction of forces occurring about the lumbosacral spine. This information provided the input data for a model of the lumbar spine from which calculations of intervertebral stresses evident at the lumbodosacral joint were computed. Intervertebral forces were further apportioned into compressional and shearing force components. The results of this study indicated that the potential for injury to structures of the lumbar spine related to max moments of force, bone-on-bone force and compressional force was greatest during performance of the Two Hand Snatch despite heavier wts being lifted in the Two Hand Clean and Jerk. The potential of injury from shearing force was greatest in the Two Hand Clean and Jerk since the highest shearing stresses were recorded for this Olympic lift. A % increment in wt load appears to increase max critical stress values although this relationship was not consistent in comparing wt loads lifted in the Two Hand Snatch to weight loads lifted in the Two Hand Clean and Jerk. Biomechanical factors related to each lift were identified and discussed with respect to their effect on the magnitude of max stress values.

UNIVERSITY OF WISCON--LACROSSE (N. K. Butts)
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605. ASHE, Cynthia L. Effects of a posture awareness program on the static standing posture of emotionally disturbed children. M.A. in Physical Education--Handicapped, 1977, 47 p. (W. Kaufman)
The Ss were 16 children from the LaCrosse Home for Children, a residential treatment center. All Ss were tested prior to the beginning of the program and at the end, using an illustrated checklist of static standing posture. An ANCOVA was used to determine the diff between the mean scores of the groups before and after the program. Within the limits

of this study, it was concluded that a posture awareness program showed a sig diff in the static standing posture of emotionally disturbed children.

606. BERNA, Jennifer S. The effectiveness of relaxation training and the role of locus of control in reducing anxiety. M.S. in School Health Education, 1977, 188 p. (J. Curtis)

A 5 day stress control workshop emphasizing relaxation training was evaluated to determine the sig of participant anxiety reduction. Locus of control orientation impact on the relative effectiveness of relaxation training was also analyzed. Exp (N=20) and Control (N=29) Ss were administered Rotter's I/E Locus of Control Scale and Spielberger's STAI. After completion of the workshop both groups completed the STAI post-test. 2 wks later the STAI post- post-test was self-administered to both groups. The Man Whitney U-test analysis compared diffs in state and trait anxiety change scores between exp and control groups. When low initial state anxiety scores were removed, data revealed sig diff (in the negative direction) in the pre-to-post state anxiety gain scores. Although not statistically sig, all state anxiety gain comparisons changed in the negative direction indicating a borderline decrease in state anxiety. Data revealed that there were sig diffs in the post-to-post trait anxiety gain scores. However, 5 uncharacteristically high initial trait anxiety scores may have influenced that data results. Data did suggest that relaxation training may have some subjective benefits and positive effects on anxiety reduction.

607. BRAATZ, Janelle. The relationship of arm and wrist strength to the velocity of an open overhand volleyball serve. M.S. in Physical Education, 1977, 72 p. (N. Butts)

Arm and wrist strength and the open overhand volleyball serve velocity were determined for 44 female Ss in 7 randomly selected SHS in District III of the WIS Interscholastic Athletic Association. Cable tensiometer and cinematography techniques were used to determine the Ss strength and serving velocity, respectively. Multiple Rs were used to analyze the data and indicated the relationship between arm and wrist strength and open overhand volleyball serve velocity ($p < .05$).

608. BROWN, Kathryn J. The relationship between muscular fitness and self-concept in developmentally disabled adults. M.S. in Physical Education--Handicapped, 1977, 49 p. (W. Kaufman)

All Ss (N=33) had some form of developmental disability and ranged in age between 18 and 60. Hayden's (1964) Physical Fitness for the Mentally Retarded and Piers and Harris' (1969) Children's Self-Concept Scale was administered to each S. Results indicated there was a sig relationship ($p < .05$) between the level of muscular fitness and the self-concept of developmentally disabled adults.

609. BURROWS, Susan. Survey of special education supervisors to determine the status of Physical Education for the handicapped within the public schools of Rhode Island. M.S. in Physical Education--Handicapped, 1977, 59 p. (W. Kaufman)

A list of special education supervisors was obtained from the specialist in special education for the state of RI. A questionnaire was mailed to a randomly selected group of certified supervisors in special education (N=25). Results indicated that there is a need for trained specialists in adaptive PE throughout the state. Furthermore, the average no. of meetings per wk as well as the average class enrollment need to be improved to meet state regulations.

610. CUCCIO, Santa A. The effects of self-graphing in Physical Education on the gross motor performance of emotionally disturbed children. M.S. in Physical Education--Handicapped, 1977, 73 p. (L. Goodwin)

Ss were residents of the LaCrosse Home for Children and ranged in age from 108 to 156 mos. All Ss were in identical "I CAN" programs, however, the exp group (N=6) had self-graphing and the control group (N=6) did not. The Cratty-Martin Six-Category Gross Motor Test (GMT) was used to determine the priority movement behavior needs of all Ss before and after the 8 wk program. The ANCOVA indicated no sig diff ($p > .05$) between groups. The numerical rank order was used to determine the % of completed performance objectives for both groups. At the end of the 8 wk PE program both groups achieved a 40% level in the area of body control. In the area of fundamental motor skills the control group (without self-graphing) achieved a level of 30%. The control and exp groups were approximately at the same level of achievement at the end of the program. Therefore, it was concluded that self-graphing in PE did not sig affect the gross motor performance of emotionally disturbed children.

611. CARLSON, Jean M. Exercises and activities for the elementary aged child with cystic fibrosis. M.S. in Physical Education--Handicapped, 1977, 35 p. (W. Kaufman)

A manual of exercises and activities for children with cystic fibrosis was developed. The most effective exercises and activities, in relation to their value in meeting the therapeutic needs and goals of cystic children, were selected for the manual according to information reviewed in the literature and from the input received from randomly selected physicians evaluations of the manual prototype. The finished manual was designed for use by adaptive physical educators and physical educators separately or in conjunction with a regular PE program, in order to provide a more beneficial activity program with specific therapeutic goals for the child with cystic fibrosis.

612. CRAFT, Dana L. Competitive ability, physical size, and self-concept of physical size of selected college women field hockey players. M.S. in Physical Education, 1977, 38 p. (W. Kaufman)

Measurements of competitive ability (Ryan's Competitor Rating Scale), self-concept of physical size and total self-concept (TN Self-Concept Scale) and actual physical size were determined on college field hockey players (N=48). Results indicated there was a sig relationship between competitive ability and self-concept. Athletes with higher self-concepts also tended to score higher on the competitor rating scale.

613. DAVIES, Kelvin. Lactate metabolism during maximal work. M.S. in Physical Education, 1977, 124 p. (R. Moss).

The metabolism of lactate was studied in a group of male varsity track athletes (N=17) aged 18-22, during a multi-stage treadmill test to max VO_2. 2 subgroups of the total group, consisting of sprinters (N=9) and distance runners (N=8) were examined for diffs in lactate metabolism. Respiratory gas exchange was measured at 30-sec intervals and L-lactate concentration was determined from venous blood collected at 2-min intervals. The relationship between venous lactate concentration and VO_2 for the total group was curvilinear, eta = .87, F (10,160) = 10.424, ($p < .01$). The relationship between venous lactate concentration and VO_2 for sprinters, eta = .901, F (10, 80) = 7.396, ($p < .01$), and for distance runners, eta = .869, F (10, 80) = 5.402, ($p < .01$), was found to be diff, t (14) = 2.213, ($p < .01$). The amplitude and direction of the lactate: VO_2 curves for sprinters and distance runners were shown to be diff by curvilinear regression. From diffs between sub-groups, the hypothesis that aerobic catabolism in distance runners continues to operate at a higher % of max VO_2 than in sprinters was constructed.

614. DRUECKE, Ralph C. Jr. Predicting performance in a gymnastics competition through the level of concentration grid test. M.S. in Physical Education, 1977, 38 p. (W. Kaufman)

The Level of Concentration Grid Test (LCGT) was administered to 22 male, varsity, all-around gymnasts from 9 midwestern universities. Individuals designated as all-around by their respective team coach were administered the LCGT by the team coach 2 days prior to that team's competitive gymnastic meet against the UW-L team. The LCGT consisted of 10 rows by 10 columns comprising 100 cells. Each cell contained 1 randomly assigned integer, between 1 and 100. Each S was allowed 4 mins to place a check on each cell in numerical order; the object being to go as far as possible. Distractions as pre-recorded on audio tape were played back via cassette player during the test administration. The last no. the S had checked at the completion of a 4 min period was his LCGT score. The LCGT score was correlated with the all-around score received in competition. An r of -0.1639 was found between the score received on the LCGT and the all-around score. It was concluded that there was no sig relationship between the means of the LCGT scores and the all-around scores.

615. DUGAN, Mary A. Effects of a creative approach to dance on the self-concept of mentally retarded adults. M.S. in Physical Education--Handicapped, 1977, 31 p. (W. Kaufman)

This study was designed to compare the effects of a program of creative dance to a regular program of adaptive PE. The Ss were 16 adults participating in the Riverfront Activity Center, an adult day services program for the mentally retarded in LaCrosse, WI. All Ss were tested prior to the beginning of both programs and at the end, using selected items from the Piers-Harris Children's Self-Concept Scale. An ANCOVA was used to determine the diffs between the mean scores of the groups before and after the program. Within the limits of this study, it was concluded that a program of creative dance as compared to a program of adaptive PE failed to show any sig diff in the self-concept of mentally retarded adults in the exp and control groups.

616. ERNSTER, John M. A study of handedness for elementary physical education teachers. M.S. in Physical Education, 1977, 17 p. (W. Kaufman)
An overview of the literature in the area of handedness indicates that a student, especially at the ELE school level, could encounter many confusing learning situations. For this reason the physical educator should be aware of the potential problems.

617. FERSTI, Karen. A survey of curriculum needs determined by high school students' knowledge and interests of health education content areas. M.S. in Health Education, 1977, 88 p. (R. Papenfuss)
This study evaluated HE curriculum needs by measuring SHS students' knowledge and interests of HE content areas at Sheboygan North HS. Form B of a Health Knowledge Test by Wilbert Raymond Augustin was used to evaluate health knowledge. 16 content areas were measured through the use of 75 questions. The Interest Instrument consisted of 23 content areas, 16 of which paralleled those in the knowledge test. The remaining 7 were evaluated as important health content areas and were included in the interest instrument. The Ss (N=1,025) represented 68.3% of the total student body. Averages for the responses of the knowledge and interest in the HE content areas were tabulated. The results of the study indicated that there were 4 content areas with a low level of knowledge and a high degree of interest. The areas were: personal health; mental illness; safety and accident prevention; and physical fitness and exercise. Students indicated a lack of knowledge in 50% of the content areas, and expressed a desire to learn more about 70% of the content areas identified in this study.

618. GAYLE, George W. A comparative study of the static, dynamic, and rotary balance of hearing and hearing impaired children. M.S. in Physical Education--Handicapped, 1977, 41 p. (W. Kaufman)
A group of hearing impaired children (N=20) and a group of normal hearing children (N=20) were matched according to age and sex. Balance ability was evaluated by testing each child individually in 3 areas of balance: static balance-right, static balance-left; dynamic balance; and rotary balance-right, rotary balance-left. The measuring devices used were the Lincoln-Oseretsky Motor Development Scale, balanciometer and a rotary chair. The means for each of the 5 balance tests were compared. Results of a correlated t-test indicated a sig diff in the static, dynamic, and rotary balance tests ($p < .05$). PPM correlation indicated r's between dynamic

balance and age, static balance-right and static balance-left, static balance-right and age, rotary balance-right and rotary balance-left.

619. GUILFOIL, J. Scott. The relationship of selected flexibility and strength measures to time in the 100 yard crawl stroke. M.S. in Physical Education, 1977, 69 p. (N. Butts)
Male SHS swimmers (N=26) who bettered or equaled a time of 56 secs for the 100 yd crawl stroke were tested for flexibility of the ankle, knee, hip, trunk, and shoulder. This was followed by strength tests of the knee, hip, trunk, and shoulder. Upon completion of these tests the Ss were timed for a 100 yd kick, pull, and swim. it was concluded that certain flexibility measures were sig related to swimming time, however it was determined that knowledge of certain strength and flexibility measures could not be used to predict 100 yd crawl stroke times.

620. HABERHERN, Dennis M. A comparison of the academic achievement, school behavior, and attendance of athletes and nonathletes. M.S. in Physical Education, 1977, 41 p. (W. Kaufman)
The objective of this study was to compare all the athletes and nonathletes in the 6th, 7th, and 8th grades of Concord Lutheran School, St. Louis, MO, during the 1976-1977 school yr. This was accomplished by compiling information on absences, tardies, scores on the various sections of the CA Test of Basic Skills, on GPAs, and on the no. of times students had to be disciplined for unacceptable classroom behavior. Only those students who were in attendance for the entire year participated in the study. There were 78 Ss, 51 athletes and 27 nonathletes. Information was recorded and means were compared through small sample t-tests. Sig diffs were found only in the areas of absences, GPAs, and on the mathematics section of the CA Test of Basic Skills.

621. HAGGERTY, Nancy Poehling. The effects of thermal biofeedback training on finger temperature and heart rate. M.S. in Health Education, 1977, 50 p. (W. Chen)
To determine if thermal biofeedback training had an effect on ability to control vasodilitation, 18 male and female Ss were post-tested in ability to increase finger temp. The 10 Ss in the exp group received 3 training sessions in thermal biofeedback using both audio and visual feedback techniques. The 8 control Ss were given a pre- and post-test to measure change in finger temp after establishment of the normal

baseline finger temp. When measuring finger temp change between the exp and control group, no sig diff was found ($p < .05$). The 10 Ss in the PPM correlations were calculated between finger temp and HR. A sig r ($p < .001$) existed between change in HR and finger temp increase. The relationship of increased finger temp and decreased HR was sig ($p < .05$) for 3 of the 5 male Ss in the exp HR group. The r between hand temp increase and HR increase in the 5 female Ss was not supported.

622. HARMAN, Michael J. The effects of an adapted physical education program on the social competence of developmentally disabled adults living in an institution. M.S. in Physical Education--Handicapped, 1977, 24 p. (W. Kaufman)

The effects of an adapted PE program on the social competence of developmentally disabled adults living in an institution was determined. The Ss (N=18; CA 20 to 68; MA up to 50; SA 2.6 to 8.7; and SQ 7.12 to 32.22) were all residents at the Lakeview Health Care Center in West Salem, WIS and were assigned to an exp and control group. The groups were pre- and post-tested with the Vineland Social Maturity Scale (VSMS). The exp group received a 10 wk adapted PE program and the control group engaged in activities for daily living (ADL) skills. It was concluded that there was no sig effect of an adapted PE program on the social competence of developmentally disabled adults.

623. HEILBUTH, Lynne A. The relationship of selected variables to reaction time in retardates. M.S. in Physical Education--Handicapped, 1977, 59 p. (W. Kaufman)

The study investigated the relationship of IQ, speed of movement performance (SpM), steadiness of movement performance (StM), amount of PE training (PeT), CA and sex to RT performance in 38 mentally retarded Ss, 20 females (CA 153-435, IQ 30-69) and 18 males (CA 104-517, IQ 30-84). Data were collected through S's school records and performance testing. Performance testing included a tapping board, a steadiness tester and a Dekan Timer. Data were analyzed through a PPM r, stepwise R, and ANOVA. Results obtained included: IQ, SpM and RT were sig interrelated; (IQ, SpM, StM, CA and PeT, in combination, were sig in explaining 61.11% of the variance in RT for female Ss and 65.04% for male Ss). PeT was sig inversely related to RT for male Ss. Further analysis showed lower IQ male Ss had slower RTs and had received more PE training.

624. HOLTER, Sandra. An evaluation and assessment of the LaCrosse City Health Department's blood pressure screening clinics. M.S. in Health Education, 1977, 56 p. (G. Gilmore)

In the descriptive part of the study, information was obtained from 466 persons screened. In the questionnaire, information was received from 103 persons who returned it to the Health Dept. Results of the descriptive study showed that those people screened have a profile similar to persons screened throughout the country. The mean age was 51 and mean BP was 137/83, a normal reading for this age. With the attitude and behavioral hypothesis, it was found that there was a positive change on the part of the patient in all but 2 questions. The narrative response helped form recommendations for future clinics.

625. KASTEN, Robert. A comparison of the sportsmanship attitudes of fifth through twelfth grade male athletes and nonathletes. M.S. in Physical Education, 1971, 36 p. (W. Kaufman)

Haskin's Action Choice Tests for Competitive Sports situations was administered to 5th and 12th grade boys (N=121) during PE classes. The Ss were identified as athletes (3 groups) and nonathletes (4 groups). The ANOVA indicated a sig diff ($p < .05$), however, the Scheffe test indicated no sig diff between any of the athlete and nonathlete groups ($p > .05$).

626. KOUDELKA, Bonnie. A survey of the role of physical education specialists in AMEND network schools. M.S. in Physical Education, 1977, 62 p. (W. Kaufman)

How PE specialists perceive their role in an IGE school in relation to the IGE concept was determined. A 50 question survey was sent to 21 PE specialists of the 9 school districts in the AMEND network. The questions were arranged into 4 categories: administration and functional information; concern for learning and the program; level of involvement in IGE; and MAPE. The participants were divided into 3 groups, determined by the no. of schools they were responsible for teaching in, and the responses were computerized to obtain %. The results of the survey indicated that there were a variety of roles in which the PE specialist could become involved. The dept. of involvement depended primarily on self initiative and cooperation of other staff members and administrators.

627. KULL, Robert P. A comparison of university students in four selected fields of study as to their knowledge of asthma. M.S. in Physical Education--Handicapped, 1977, 66 p. (W. Kaufman)
University students from 4 fields of study, adaptive PE (N=20), PE (N=20), therapeutic REC (N=20), REC (N=20) were randomly selected. Each S was given an asthma knowledge test developed by the Am. Lung Association of Hennepin County, MN to determine the amount of general information parents of asthmatic children have about asthma. In addition, Ss were given information parents of asthmatic children have about asthma. In addition, Ss were given 9 questions pertaining to physical activity in relation to asthmatic children. Results of the ANOVA indicated no sig diff ($p > .05$) in the scores on the Asthma Knowledge Test among the 4 groups.

628. MAIER, Thomas J. A study to determine the validity of the LaCrosse Cardiovascular Index in predicting cardiovascular fitness. M.S. in Physical Education, 1977, 74 p. (P. Wilson)
The LaCrosse Cardiovascular Index (LCI) and a max VO_2 treadmill test was administered to 30 Ss. A stepwise R prediction indicated the following: There was a sig relationship between the LCI total score and VO_2 max ($p < .05$). The only sig relationship found among the LCI variables was mins of exercise, which exhibits a relationship to VO_2 max ($p < .05$). The LCI variables could be organized to allow for the attainment of equations with higher levels of sig ($p < .01$, .001) in predicting VO_2 max.

629. MATTER, Jacquelyn. The attitudes of geriatric institutionalized veterans toward death and dying. M.S. in Health Education, 1977, 48 p. (J. Jordan)
The Ss (N=114) were all admitted patients at the VA Hospital in Tomah, WIS. A 3-part questionnaire was used: 6 questions determining patients' competency; 10 personal history questions; and an attitudinal scale comprised of 20 statements ranging from extremely favorable to extremely unfavorable attitudes on death. The results of the questionnaire indicated that neither the extremely favorable nor extremely unfavorable attitudes were found in the 114 Ss in descriptive data analysis. The Ss participating in the study ranged in age from 65 to 89; length of stay at the hospital ranged 1 mo to 30 yrs 8 mos; educational background ranged from completing the 3rd grade to a college degree; and the marital status of the Ss resulted in: single = 51%, married = 23%, divorced =

13% and widowed = 13%. The personal questions were also compared to the S's attitudes toward death and dying.

630. MENZE, Joseph O. An evaluation of the effects of a teaching unit on the self-concepts of primary students. M.S. in Health Education, 1977, 126 p. (R. Papenfuss)
A self-concept teaching unit, entitled the "I Am Great Unit" was administered to 124 kindergarten, 1st and 2nd grade students. The exp separate-sample pre-test-post-test design referred to as design no. 12 was used. Measurements were obtained on 124 Ss using Stanford's version of the "Faces" Attitude Inventory. The data collected from the Ss after a 2 wk treatment period was analyzed using a 2-way ANOVA unequal cell frequencies model. Statistical analysis of the data showed that self-concept increased sig after administration of the "I Am Great Unit", ($p < .001$). Thus, the author concluded that there is a sig diff in self-concept among primary students who participated in the "I Am Great Unit".

631. MEYER, Marilyn L. The effect of facility size on the overhand throw and punt for distance in kindergarten children. M.S. in Physical Education, 1977, 56 p. (W. Van Atta)
Throwing and punting skills were taught in a facility 50 ft by 75 ft with an 8½ ft ceiling and outdoors. The Ss (N=61) were kindergarten age and divided into 3 groups--outdoors, indoors and control. At the end of 8 wks, all 3 groups were post-tested outdoors. At the end of the 28th wk, another kicking test was given. It was followed by 8 wks of instruction, after which all 3 groups were post-tested in both skills. An ANCOVA was computed for all 3 groups. No sig diff in any group was shown for the throw, but after 8 wks of instruction, the indoor group showed sig improvement over that shown by the outdoor group.

632. MORETTO, Denise T. A case study of the relationship between performance scores and chronological age, sex and intelligence of trainable mentally retarded adolescents. M.S. in Physical Education--Handicapped, 1977, 91 p. (W. Kaufman)
Motor performance data on 4 female and 2 male trainable mentally retarded adolescents were collected. Performance scores were recorded in the 50 yd dash, the standing long jump, and the softball throw. All of the Ss performed 3 trials per day in the standing long jump and the softball throw with the mean of the 3 trials recorded as the performance score for that particular day. Results indicated that

there was no sig relationship between CA and the performance scores of TMR adolescents in the 50 yd dash, the standing long jump and the softball throw. However, an increase in CA accompanied improvements in motor performance of each S within the 5 wk period. No sig relationship was evident between IQ and the performance scores of TMR adolescents in the 50 yd dash, the standing long jump, and the softball throw; however, r's approached but did not attain a level of sig ($p > .05$) with the exception of the r between IQ and the 50 yd dash--wk 5. A non-sig diff was found between the performance scores of TMR boys and girls in the 3 events. The typical male-female similarities and diffs in motor performance were not exhibited by the Ss.

633. MUNDT, Mary P. The effects of vegan and traditional diets on five anthropometric measurements in children birth through five years of age. M.S. in Health Education, 1977, 72 p. (G. Gilmore)

Ht (or recumbent length), wt, head circumference, triceps skinfold thickness, and subscapular skinfold thickness measurements were recorded on a total of 52 Ss following 2 different diets: vegan and traditional. Of the 26 children in each diet group, 14 were male and 12 were female. ANCOVA with age as the covariate, was calculated on the anthropometric readings. No sig diff was found between the 5 measurements of vegan and traditional Ss. PPM r was carried out on 6 intra-group correlations among the measurements. The r's between wt/ht and triceps/subscapular were sig between wt/ht and triceps/subscapular were sig ($p < .05$) in all 4 diet-sex groups: male vegan, female vegan, male traditional and female traditional. A Fisher's Z transformation was calculated on the above 6 r's on an inter-group basis. No sig diff was found ($p > .05$). A 24-hr Diet Recall and Diet History Questionnaire were administered to the mothers of the Ss. Group mean scores were calculated for all 5 body measurements. In addition, anthropometric findings were descriptively examined in relation to 1976 National Center for Health Statistics Growth Norms. It was concluded from this study that the vegan and traditional children were not sig diff in 5 anthropometric measurements. Among other variables, diet was shown to have no sig impact on these body measurements when comparing vegan and traditional Ss.

634. O'NEILL, Timothy S. An analysis of physical education/recreation programs in facilities for the developme[illegible]lly disabled in the State of Iowa. M.S. in Physical Education, 1977, 73 p. (W. Kaufman)

A questionnaire, constructed by the writer, was sent to the directors of 87 facilities for the developmentally disabled in the State of IA. An analysis of data brought forth several major findings: 75% of all responding facilities offered a PE/REC program; a majority of the facilities responding reported that the program was not under the direction of a director/supervisor of PE/REC. Also there was strong agreement among the respondents that PE/REC programs should be offered. However, a majority of the facilities reported that the staff involved were not qualified to implement such programs. Based on the results there is a need for the individuals involved with the PE/REC programs to add to their professional preparation by attending in-services, workshops, and classes which deal with the PE/REC for the developmentally disabled.

635. PILMONAS, Edward. Effects of certain factors on the attitudes of high school seniors toward old people. M.S. in Health Education, 1977, 47 p. (J. Jordan)

The attitudes of HS seniors (N=157) enrolled in an elective economics course toward old people as affected by their sex, home contact with the elderly, frequency of contact, intimacy of contact and nature of their relationships with old people was investigated. The results of the 2-part questionnaire, as analyzed by statistical tests of variance, indicated that living experience and frequency of contact were not sig influences alone in affecting the students' attitudes concerning the old. Sig results were found in the attitudes of students who have, in general, experienced diff degrees of intimacy and diff relationships with old people. It was found that as intimacy of contact deceased, the attitudes concerning the aged became more unfavorable. In the relationship category, the most favorable attitudes were found with elderly friends and then with relatives. Those who had no special relationship with the aged scored the least favorable attitude scores. There was also a sig variation between the attitudes of females as compared to males. Females held a more favorable attitude than did the males.

636. PIZZA, Edward J. Adaptive physical education activities and postural positions for the spastic cerebral palsy child. M.S. in Physical Education--Handicapped, 1977, 98 p. (L. Goodwin)

The purpose of this study was to determine if a sig diff existed between the knowledge of the adaptive physical educators and the physical therapists concerning the general aspects of cerebral palsy; and to select appropriate PE activities and postural positions for the cerebral palsied child. A questionnaire consisting of 3 parts: personal data, general knowledge, and activities and positions, were administered to adaptive physical educators (N=50) and physical therapists (N=50) who were randomly selected from WIS. A t-test and X^2 indicated a sig diff ($p < .05$) existed between the adaptive physical educators and the physical therapists' general knowledge activities, and positions. In the opinion of the investigator, the analysis of data indicated that the adaptive physical educator should devote additional training to the understanding of the general factors pertaining to cerebral palsy. Furthermore, both groups of respondents should participate in programs of continuing education.

637. POWERS, Patrick J. Proposed guidelines for development of a backpacking program for the mildly mentally retarded. M.S. in Physical Education--Handicapped, 1977, 100 p. (W. Kaufman)

Proposed guidelines for the development of a backpacking program for the mildly mentally retarded was established based upon a review of related literature and research of available backpacking and mountaineering literature. Recommendations for program objectives, foundation, structure, and activities were made. Program adaptations and considerations with regard to wilderness area selection, equipment, food, wilderness travel, and camping and sleeping were also presented. It was concluded that a systematic, functional, and challenging backpacking program can increase psychomotor and adaptive behavior levels in the mildly mentally retarded but no statistical evidence was presented. The study also indicates the need for further research.

638. REINHARDT, Arthur C. The effects of a supplementary gross motor program on children with exceptional educational needs. M.S. in Physical Education--Handicapped, 1977, 24 p. (W. Kaufman)

Exception education students (N=11) ranging in age from 6 to 12 yrs were enrolled in pre-academic and EMR classes during the academic year. In Feb the treatment of individualized supplementary gross motor program began. The Gross Motor Test (WAHPER, 1976) was administered in Sept., Feb and June. ANOVA indicated no diffs in the areas of: body awareness, gross agility, static balance, locomotor agility, ball throwing and ball tracking, resulting from participation in an adaptive PE program as compared to participation in an individualized supplementary gross motor program for students with exceptional educational needs.

639. REITER, Elaine L. The effects of mental and physical practice on the performance of the tennis serve. M.S. in Physical Education, 1977, 63 p. (N. Butts)
SHS girls (N=93) were divided into 3 groups: a control group (N=33), a physical practice group (N=29) and a group using a combination of mental practice and physical practice (N=31). Each of the groups were pretested for tennis serve ability by use of the serve portion of the National Tennis Foundation's Serve Stroke and Volley Test (1974), treated for a 2½ wk period, and post-tested using the same measure. An ANCOVA produced no sig diffs between physical practice of the tennis serve alone and physical practice combined with mental practice of the tennis serve.

640. SCHWARTZ, Armin J. The effects of bicycle safety flags on the dynamic balance of second grade children. M.S. in Physical Education, 1977, 38 p. (W. Kaufman)
An obstacle course was set up in which dynamic balance was determined by the no. of deviations which occurred outside the predetermined path. Each S (N=24) was tested with and without a safety flag attached to the bicycle. Half the Ss rode 1st with the flag and half the Ss rode 1st without the flag. The results indicated that there was no diff ($p > .05$) in dynamic balance with or without the flag attached to the bicycle.

641. SMITH, Judy A. The effect of the physical biorhythm cycle on resting and submaximal heart rate on female college students. M.S. in Health Education, 1977, 110 p. (G. Gilmore)
To determine if the physical cycle had any effect on HR, 22 college women were measured at rest and during submax work on specific days of their physical cycles. From a random sample of 200 names, 11 Ss volunteered and served as a control. Treatment for the control was a meeting on measuring HR and testing on the bicycle ergometer. Through campus advertising 11 Ss volunteered and became the exp group. Treatment for the exp group was a meeting on biorhythm. Ss were tested on their 1st critical, mid-critical, mid-high, and mid-low days. Each test resting HR was measured by the S before getting out of bed. Submax HR was taken after the S pedaled against a specified workload on a friction ergometer for 6-min at 50 rpm.

When considering exp versus control-group effect, the exp HR was higher ($p < .001$) than the control for both resting and submax HR. For exp versus control-single test effect, the exp HR was higher ($p < .01$) than the control for the physical high and mid-critical days for resting HR. There was no sig diff ($p > .05$) in HR between specific cycle days for either group. The exp Ss scored sig higher ($p < .01$) than the control Ss in awareness of biorhythm effects.

642. SMITH, Robert E. A comparison between two exercises to improve grip strength in college males. M.S. in Physical Education, 1977, 28 p. (W. Kaufman)
All Ss were males enrolled in a conditioning and wt lifting class which met 3 days/wk for 7 wks. 1 group (N=8) used the traditional method of doing chin-ups and the exp group (N=10) used a modified method which used only the fingertips as a means of support. There was no sig diff in grip strength between the dominant and non-dominant hand in either group nor was there a sig diff between methods.

643. SMOCZYK, Constance M. The development, and implementation and evaluation of a group counseling program and its influence upon anxiety levels in newly diagnosed cancer patients. M.S. in Community Health Education, 1977, 56 p. (G. Gilmore)
A total of 24 Ss being treated for cancer were used in the study. They were assigned to either group I (group counseling program) or to group II (control). The Ss in both groups completed the Spielberger STAI. Group I participated in a series of 3 highly structured group counseling sessions. The content of the sessions was designed to deal with problems that tend to produce or intensify anxiety in cancer patients. The 3 specific topics discussed were: relaxation techniques, nutrition and assertiveness training. After completion of the group counseling program, both groups were re-tested with the STAI. The Mann Whitney U-test was used to compare diffs on state and trait anxiety levels between group I and group II. No sig diffs on either state or trait anxiety were found between the 2 groups. Therefore, the null hypothesis could not be rejected. However, the data did suggest that a counseling program may have some positive effect on anxiety reduction in cancer patients.

644. STEINER, David S. The assessment of factors affecting consumer involvement and non-involvement in hypertension screening clinics, LaCrosse, Wisconsin. M.S. in Health Education, 1977, 88 p. (G. Gilmore)

The data was obtained by use of 2 questionnaires: 1 was developed for consumers attending the clinics, and the other for consumers not attending the clinics. The 1st 25 consumers in the door at the 3 clinic sites were administered a questionnaire. Another 75 questionnaires were administered to randomly selected non-attenders in the home setting. Within the limits of this study, the following conclusions were ascertained: friends were a viable source of information about the clinics; many attenders used these clinics to put aside fears of possibly having hypertension; time of the clinic and transportation availability were not considered barriers to clinic utilization; the consumers' sex and age, apathy toward utilization, reluctance to support involvement in program development and evaluation, and non-support of telephone recorded messages, were limitations to clinic utilization; some consumers used the clinics as a place for social interaction and public health nurses overwhelmingly satisfied the needs of the consumer population being screened.

645. SUTHERLAND, Catherine. Survey of AIAW National coaches attitudes toward interschool competition for upper elementary school girls. M.S. in Physical Education, 1977, 30 p. (W. Kaufman)
The intent of this questionnaire survey was to determine the attitudes of the AIAW National female coaches toward interschool competition for upper ELE age girls. It was also an intent of the questionnaire to determine what sports the coaches believed should be offered to upper ELE girls for interschool competition. A 28 item questionnaire was developed and sent to 57 AIAW National female coaches with a return of 46 for 81%. The 1st part of the questionnaire was background information about the coaches in general. Those coaches agreeing with interschool competition completed the entire questionnaire while those coaches disagreeing completed the 1st 7 questions. The results indicated that the majority of coaches were in favor of interschool competition. The 6 most popular sports reported were basketball, swimming, track and field, volleyball, gymnastics and softball.

646. WOODARD, Jay G. Physical performance tests as success indicators in pole vaulting. M.S. in Physical Education, 1977, 63 p. (N. Butts)
Physical performance tests were selected to represent the most commonly identified phases of a pole vault. These tests were administered to SHS pole vaulters (N=42) to determine if these tests were indicators of pole vaulting ability. Only moderate r's were found and only 1 test (35 yd target run)

was sig ($p < .05$) thus the target run was considered a good predictor of pole vaulting ability.

647. WIEGEL, Craig E. The relationship of shaft flex to distance and accuracy using a #1 wood golf club. M.S. in Physical Education, 1977, 33 p. (W. Kaufman)
Golfers (N=20) who had registered handicaps of 6 and under were given 10 drives with 4 diff types of club shafts. The ANOVA indicated no sig diff between the distance achieved by the 4 clubs. There was a sig diff in accuracy with the medium shaft being the most accurate.

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648. BAHRKE, Michael. Influence of acute physical activity and non-cultic meditation on state anxiety. Ph.D. in Physical Education, 1977, 86 p. (W. Morgan)
The influence of acute physical activity and "non-cultic" meditation versus a standard control treatment on state anxiety was investigated. 75 adult male volunteers served as Ss with 25 Ss randomly assigned to each group. Physical activity was performed at 70% of VO_2 max for 20 mins by Ss in the exercise group. Ss assigned to the meditation group practiced Benson's Relaxation Response for 20 mins, and the Ss in the control group simply rested quietly in a reclining chair for 20 mins. State anxiety was measured by means of the Spielberger STAI, and it was assessed prior to, immediately following, and 10 mins following each treatment. O_2 consumption, HR, skin temperature and BP were also measured as confirmatory variables under selected conditions. The data were analyzed by means of a 2-way repeated measures ANOVA, and this analysis revealed that a sig reduction in anxiety occurred for each treatment. This held for both those Ss falling within the normal range for state anxiety, as well as those Ss regarded as high-anxious. It was also noted that none of the physiological variables differed sig following the control and meditation treatments. The present evidence suggests that acute physical activity, non-cultic meditation, and a quiet rest session are equally effective in reducing state anxiety.

649. BYRNES, William C. A comparison of the metabolic effects of breathing hyperoxic and normoxic gas mixtures during prolonged exercise. Ph.D. in Physical Education, 1978, 129 p. (J. Mullin)
The metabolic effects of hyperoxia during prolonged work at

a moderate intensity was investigated. 7 Ss exercised for 30 mins on a bicycle ergometer at 80% of their max aerobic power while breathing either room air or 70% O_2. During each submax exercise bout, the following parameters were measured at 5 min intervals: VO_2, VCO_2, ventilation, HR and blood lactate. Before and after each exercise session, a muscle biopsy was taken from the vastus lateralis muscle. Muscle biopsy samples were then analyzed biochemically and histochemically. HR and ventilation decreased during the 30 mins of exercise under the hyperoxic condition as compared with the normoxic condition. No diff in VO_2 between the hyperoxic and normoxic condition was found. The VCO_2 decreased when the hyperoxic run was compared to the normoxic run. The change in VCO_2 resulted in a decreased RQ during hyperoxia. Decreases in blood lactate, muscle glycogen used, and RQ under hyperoxic conditions suggest an increase in the utilization of fat and a decreased reliance on carbohydrate during exercise in hyperoxia. The histochemical evaluation of skeletal muscle did reveal 3 fiber types in human muscle via the A Pase stain. These fibers were classified as fast, intermediate and slow. With prolonged exercise, the glycogen depletion pattern evaluated via the PAS stain was the same under both conditions, i.e., the slow muscle fibers showed the greatest depletion followed by the intermediate and the fast muscle fibers.

650. CARLIN, James A. Body composition, sinking force and oxygen uptake of young swimmers treading water. M.S. in Physical Education, 1977, 82 p. (W. Reddan)

The effect of body composition upon the cost and efficiency of treading water exercise was studied in 8 trained swimmers (9-15 yrs). Also the cardiopulmonary response to treading water was compared to that of treadmill walking. Physical factors under analysis were age, ht, ht cubed, wt, body surface area, body density, % fat, fat wt, fat-free wt, skeletal wt, total lung capacity, functional residual capacity, RLV, water wt, and the sinking force of the S at FRC. All Ss underwent a progressive exercise test to the level of max volitional effort during treading water and treadmill walking. Measurements during both submax and max work included O_2 consumption, ventilation, and HR. Analysis of the data indicated: the cost of treading water in this group of young swimmers was best related to their underwater wt, and if the effect of underwater wt was removed, negatively related to their body ht cubed, the efficiency of treading water in this group of young swimmers was best related to their body ht cubed, and if the effect of body ht cubed was removed, negatively related to the amount of fat-free wt, if technique or skill would have explained the variation in efficiency of these Ss treading water, the relationship of age to the efficiency would have been much greater, these swimmers attained the same aerobic capacity during treading water as during treadmill exercise, and the mean submax and max HR was lower during treading water exercise than during treadmill work.

651. CLERMONT, Michele. Arm stroke frequency as a possible index of mechanical efficiency in swimming. M.S. in Physical Education, 1977, 65 p. (J. Mullin)
This study was undertaken in order to test the validity of using arm stroke frequency (ASF) as a reliable index of mechanical efficiency in swimming. It was hypothesized that for the same tasks done in a swimming pool: no relationship would exist between ASF and VO_2 considered itself an index of mechanical efficiency in swimming, and no relationship would exist between ASF and efficiency as measured by the Karpovich formula. 18 male swimmers ranging in age from 14 to 18, were divided into the slow and fast groups. Each swimmer performed 4 500 yd distance swims using freestyle; 1 at max speed and 3 at submax speeds with standard times. For every swim, VO_2, HR, and ASF were measured. *T*-test analysis showed that for the max swim, the fast group was faster and more efficient, but used on the average 80 AS less at the same energy cost than the slow group. At submax swims, the fast group used in general less AS for the same task than did the slow group but the energy cost and the efficiency were the same. The slow group has a higher frequency of AS than the fast group who, instead was using more powerful AS. ANOVA showed that all variables except ASF went down from the max swim to the slower standard time swims. These findings suggested that, in general, a swimmer used the same no. of AS for the same distance, regardless of the speed of the swims, but as the speed decreased, HR, VO_2, and efficiency decreased. This may be explained by the fact that a swimmer changed the quality of his AS (pattern and strength of the traction) instead of the frequency as the speed decreased. Correlation between ASF and VO_2 expressed in the 4 units were not consistent and no correlation was observed between ASF and efficiency as measured by the Karpovich formula. The hypotheses were not rejected, but the development of a traction index (distance covered by one AS per min) was proposed as a possible index of mechanical efficiency in swimming.

652. DAHMS, Russell W. The diagnostic and prognostic value of combined rest-exercise blood pressure patterns in the development of hypertension. M.S. in Physical Education, 1977, 62 p. (F. Nagle)

An investigation was undertaken to evaluate whether combined rest-exercise BP patterns, identified during exercise stress testing would have a diagnostic and/or prognostic value in the development of resting hypertension. Ss were placed in 4 BP classifications. Class A rest < 140/90 mm Hg, max exercise (ME)< 225/90 mm Hg, (normotensive). Class B rest > 140/90 mm Hg, max exercise (ME)< 225/90 mm Hg, (hypertensive due to apprehension). Class C rest > 140/90 mm Hg, (ME) > 225/90 mm Hg., (hypertensive). Class D rest< 140/90 mm Hg, (ME) > 225/90 mm Hg, (hypertensive diathesis). Ss in these groups were studied retrospectively (5 yrs following stress test) and prospectively (1 wk). To determine the present status of the Ss resting BP self administered home measurements were made. 93% of class A (retrospective) and 76% of (prospective) Ss remained normotensive, 90% of class B Ss (retrospective) and 86% of (prospective) reverted to being normotensive, 93% of class C Ss (retrospective) and 93% of (prospective) remained hypertensive, 73% of class D Ss (retrospective) and 66% (prospective) reverted to being hypertensive. These BP patterns were shown to be a more accurate assessment of BP status than the resting measure alone. Specifically, it reveals individuals clearly hypertensive (class C), apparently hypertensive but normal (class B), and those predisposed to hypertension (class D).

653. DASKALOVIC, Ivan Y. Effects of posture, stabilization and depth on the cardiopulmonary response to underwater arm exercise. M.S. in Physical Education, 1977, 119 p. (W. Reddan)

Since both the underwater (UW) tractionless environment and the pressure breathing that a diver is exposed to during different body positions may decrease his working capacity, the effects of posture, stabilization and small depth variations on physical performance were examined in 5 divers: at 1, 5 and 8 ft; in 3 postures--upright (UR), prone (PR) and 45° headdown (HD); at rest and submax arm-exercise (SMAE) of 175 and 350 kgm/min (using a special bicycle ergometer). The PR and HD measurements were made both while stabilized (S) at the ankles and non-stabilized (NS) where position was maintained by fin-kicking. A major technical problem in UW studies is the accurate measurement of min ventilation (VE) and collection of expired gases for VO_2; thus, a special low resistance flow control valve was developed, using a single-hose double-stage SCUBA regulator, which prevented free flow and enabled the necessary measurements. HR and $FETCO_2$ were monitored continuously. As expected, VO_2 was linearly related to workload (WL) and HR and VE increased with demand (VO_2) in all conditions. VO_2, VE (both V_T and f) and HR decreased for the same WL while the Ss were S, both at PR and HD. With postural changes from the UR (negative-pressure breathing-NPB) to both the PR (smaller NPB) and HD (small positive-pressure breathing-PPB), VO_2, VE and HR were decreased for the same WL; however, no differences were observed between the PR and HD postures. VO_2 and VE increased directly with depth, while HR was unchanged, especially during exercise and in the NS condition. V_T increased and f decreased with depth, enabling adequate matching of VA to demand with a minimum change in the dynamic work of breathing; thus, no CO_2 retention occurred. It was concluded: the cardiopulmonary (CP) response to UW SMAE is similar to land-exercise, UW SMAE is facilitated by body stabilization, a beneficial effect of small PPB is suggested during submersion or diving, the 45° HD and PR are preferable to the UP posture, as far as CP response and mechanical efficiency are concerned, and apparently VO_2 may increase even with small depth changes in shallow water.

654. GREGORY, Robin. The formulation of charted space-time-quality verbalizations in the study of human movement. Ph.D. in Physical Education, 1977, 192 p. (F. Fee)
The problem analyzed in this dissertation is the translation of bodily movement into the language of words. Specific categories of verbal meaning relative to the space, time, and force meanings are abstracted from aspects of human bodily movement. A review of the literature on the concepts of space and time as applied to human movement was initiated and notation systems were surveyed. Anna Nassif's Six Little Dances was analyzed frame-by-frame from a recorded film. 3 charts were formulated and tested by abstracting spatial, temporal, and quality attributes from the bodily movement of the solo dance recorded on film. The abstracted information was translated into specific space, time, and quality words representative of the bodily movement language. 3 hypothetical statements were derived from the information charting process. Hypothesis I refers to the information necessary for the recognition of a total body position or shape in space at any given moment in time. Hypothesis II refers to the information necessary for the recognition of space and rhythmic designs of a movement sequence. Hypothesis III

refers to the information necessary for the recognition of the space and dynamic quality of motion in a given change of position.

655. HELLICKSON, Russell O. An evaluation of maximal aerobic capacity and percent body fat in United States Olympic class wrestlers. M.S. in Physical Education, 1977, 43 p. (W. Morgan)

The primary purpose of this investigation was to evaluate whether or not success in Olympic class wrestling was correlated with aerobic power or body fat. A subsidiary purpose of the study was to examine the influence of the following selected variables on success: predicted aerobic power, sub-max and max exercise HP, max ventilatory min volume, dynamic endurance, strength of grip, age, ht, and wt. The testing included completion of a biographical inventory in order to further characterize the successful wrestler. The test Ss consisted of the 1st 3 place winners of the 7 lightest wts who competed in the final wrestle-offs for the 1972 US Olympic Team. A series of 1-way ANOVA's revealed that 1st, 2nd, and 3rd place finishers did not differ on any of the physiological or biographical variables employed in this study. It is possible that other physiological parameters are capable of discriminating and this possibility should be explored in subsequent research. It is also recommended that future research explore the influence of psychological and technical factors on success in wrestling at the Olympic level.

656. MacGILLIVARY, William W. Perceptual style and ball skill acquisition. Ph.D. in Physical Education, 1977, 121 p. (M. Sloan)

The purpose of this study was to determine the relationship between perceptual style (field dependence-independence) as measured by the portable rod and frame test, and the learning of a ball catching task for 3 viewing time treatments. Diffs in amount and rate of learning were assessed by means of a repeated measures ANOVA and a trend analysis. A post-hoc comparison of means was calculated using the Tukey HSD test. The 2 groups of Ss (N=45) who satisfied the criteria for field dependence-independence were further subdivided into groups of 15 and randomly assigned to one of the 3 viewing time treatments. The viewing time treatments were 150, 250, and 350 msecs. The hypothesis of a relationship between perceptual style and learning on the ball catching task was upheld for 2 of the viewing time treatments. The field independent Ss demonstrated a sig greater amount and rate of learning than did the field dependent Ss for the 150 and 250 msec viewing time treatments. Both the field dependent and field independent Ss demonstrated statistically sig improvements in learning with the increased viewing times.

657. NAST, Paul F. Large vs. small muscle mass activity in rhythmic effort: A hemodynamic comparison. Ph.D. in Physical Education, 1977, 64 p. (F. Nagle)

Hemodynamic changes associated with submax large and small muscle mass rhythmic exercise were measured in 10 normal Ss. The small muscle mass exercises studied included 1- and 2-leg sitting press efforts and 1- and 2-leg sitting knee extension efforts on a Universal gym. The large muscle mass exercises studied involved efforts on both a stationary bicycle ergometer and a treadmill. Pre-exercise and 5 min steady-state values were obtained for the following variables: HR, systolic and diastolic BP, O_2 consumption and blood lactic acid. The rate-pressure product (RPP, HR x systolic BP) was calculated from other variables and was used as an index of myocardial O_2 consumption when comparing the various exercise conditions. Diffs in the variables measured were found when comparing large and small muscle mass exercise. Perhaps the most important diff was noted when comparing the % change in RPP to the % change in VO_2 (change = diff between steady-state and pre-ex.) for large and small muscle mass exercise. This relationship was expressed as a ratio - $\frac{\% \Delta RPP}{\% \Delta VO_2}$. The small muscle mass exercises showed consistently higher values for this ratio than the large muscle mass exercises. This indicates that small muscle mass rhythmic exercise will result in a larger increase in myocardial O_2 consumption per unit change in VO_2 than large muscle mass rhythmic exercise. This may be meaningful when confronted with a cardiac population where exercise which increases myocardial work, out of proportion to increases in total metabolic cost, could prove dangerous and might wisely be avoided.

658. ROSS, Michael A. The perception of effort in adult males possessing either the type A or type B behavior pattern. Ph.D. in Physical Education, 1977, 126 p. (W. Morgan)

The type A-Type B behavior pattern continuum has been alleged to be a psychological construct of coronary heart disease susceptibility. Type A's are thought to be achievement strivers who work close to their max capacity in comparison to type B's. 3 exps were conducted to determine whether diffs in the monitoring of effort sensations would be detected between type A's and type B's. Exps I and II were designed to assess perceived exertion ratings (RPE) of type A's and type B's at 2 min intervals throughout a modified Balke treadmill test. Comparison of type A's and type B's RPE in exp III, however, were made at 5 min intervals during a steady state bicycle ergometer test. Behavior patterns were measured by both the interview technique and the Jenkins Activity Survey questionnaire. Perceived exertion was measured by Borg's psycho-physical category scale. A 2-way repeated measures ANOVA was used to analyze the data. All 3 exps demonstrated the homogeneity of type A's and type B's effort sense, and the 2 groups were found to be remarkably similar on both resting and exercise cardiovascular paramaters. The interview method and JAS classifications did not agree at a rate beyond that expected by chance alone.

659. SMITH, Shelley Ann. *Longitudinal changes in stride length and stride rate of children running*. M.S. in Physical Education, 1977, 102 p. (L. Halverson)

5½ to 11 yrs of longitudinal changes in selected running performance variables for 5 children was examined. 5 dependent variables (stride length, stride rate, stride time, and ground contact and flight times) were examined as functions of running velocity and age, the 2 independent variables. This study assumed that changes in the variables for children would be similar for both running velocity and age, and it appeared logical to predict that the children would increase running velocity as they grew older. It was hypothesized that the patterning of selected variables in their performances over points on a continuum of age would resemble adult profiles of the same variable achieved over discrete points on a continuum of velocity. The results were: running velocity tended to increase linearly with age for the group as predicted, stride length increased with velocity and age, rate of stride fluctuated and tended to slightly decrease over time, despite increasing velocity, stride time, the inverse of stride rate, fluctuated and tended to slightly increase, ground contact time tended to decrease minimally with increasing velocity, and flight time tended to increase minimally with both velocity and age.

660. STEVENS, Christine M. *Toward a structuralist approach to symbols in dance*. Ph.D. in Physical Education and Dance, 1977, 195 p. (M. Brennan)

This study presents an objective methodology for identifying and classifying dance symbols. It demonstrates the use of this methodology by applying it to *Night Journey* and

Appalachina Spring, 2 works choreographed by Martha Graham. Structuralism as defined in this paper is a methodology which attempts to divulge the common reality underlying numerous similar examples. The structuralist examination involves 2 fundamental activities: dissection and articulation. This study dissects certain observable dance symbols from the choreographic structure of the 2 Graham works and classifies them according to a structural format. It also formulates a series of questions and definitions which specify the structural requirements governing each classification of dissected symbol. Symbol as explored in this paper is something other than pure movement which occurs within the context of a work and which stands for or represents a concept. This study shows that there are in dance certain types of connotative dance forms which can be categorized according to their structure and functional processes and defined according to the structural rules which govern them.

661. WHIPP, Susan. An approach to movement exploration. M.S. in Physical Education and Dance, 1977, 84 p. (M. Brennan)

The dancer's use of "reduction" and "reflective description" in movement exploration was explained. Phenomenologists employ "reduction" and "reflective description" to study phenomenal reality in the world. Abstracted from this context, these concepts become parts of a process used by a dancer to experience and describe the phenomena of movement in movement exploration. The interpretation of reduction and reflective description is 1st conceptual and then practical. For the dancer, reduction becomes the act of "bracketing" or "setting aside" elements of the self and dance which may influence or prejudice the movement exploration experience. Reflective description, used immediately after exploration experience, enables one to recall and describe the movement phenomena as it was experienced. In 10 separate occasions, the writer used reduction and reflective description to explore and describe movement exploration. 3 of these experiences were then repeated and video-taped. The study concluded that the concepts of reduction and reflective description have found a proper place in the practical and educational experience of the dancer. The use of reduction during movement exploration did help the dancer identify elements of the self which influenced movement experience. The use of reflective description helped the dancer identify, characterize, and associate meaning to the explored movement phenomena. The descriptions did provide a resource of movement materials applicable to future creative work in dance.

662. ZHE, Karla P. An educational approach to teaching dance technique designed to stimulate creative student responses. M.S. in Physical Education and Dance, 1977, 77 p. (M. Brennan)
The major purpose of this study was to develop a methodology in teaching dance technique. The methodology was designed to stimulate creativity and to present the educational values resulting from such an approach. The specific purpose was 3-fold: to formulate a creativity model for teaching dance technique class; to evaluate the model relative to designated criteria; and to present the educational values resulting from the methodology used. The creativity model was a series of 4 hypothetical lesson sequences, each based on a fundamental locomotor movement. The lessons were intended for college age individuals with minimal movement backgrounds. The evaluating devices were creativity criteria developed from research in 3 areas: dance, education, and creativity, and the creativity process. The sequences were evaluated according to the criteria. The results from the evaluations support the study's thesis that dance technique can be designed to stimulate movement responses without neglecting technical fundamentals.

UNIVERSITY OF WYOMING (John B. Woods)
LARAMIE, WYOMING

663. ANSON, J. Greg. Tracking task commonality as evidenced by the existence of intertask transfer. M.S. in Physical Education, 1977, 75 p. (P. Dunham, Jr.)
The purpose of this study was to investigate the effect practice on a simple tracking skill, had on the performance of a 2nd related tracking task. 48 male college students volunteered to serve as Ss for this exp and were randomly assigned to 1 of 3 practice groups: the control group (C-R), the drum rotor group (D-R), or the rotor-rotor group (R-R). The apparatus employed in this exp consisted of a model 30014 Lafayette photo electric pursuit rotor and a pursuit tracking drum which revolved in the sagittal plane and required the S to maintain contact with a designated pathway. Ss assigned to the exp groups were tested over 2 days receiving 20 trials during each session. Each trial was 20 secs in duration and a S's score was recorded as time off target. Ss assigned to the D-R group were given 20 trials on the pursuit drum on the 1st day followed by 20 pursuit rotor trials on the 2nd day. Ss of the R-R group were given pursuit rotor trials on both days. The C-R group received 20 trials on 1 day only. Results for each day's performance

were analyzed separately. Day 1 analysis indicated no diff between performance of group R-R and C-R. However, during the initial practice period, Ss exhibited less variability on the more difficult pursuit drum task than on the rotor. Day 2 results revealed a sig diff in the performance of the 3 practice groups with R-R being superior. Performance over trials was found sig as was the interaction of groups and trials. The % of transfer for groups D-R, and R-R were 1.72% and 43.71%, respectively. The final performance of groups C-R and D-R did not differ sig from the initial performance of group R-R. The results of the study were interpreted as support for the theory of identical elements.

WASHINGTON STATE UNIVERSITY (R. H. Doornink)
PULLMAN, WASHINGTON

664. BAGBY, Gregory J. The role of blood-borne carbohydrates in exercise metabolism. Ph.D. in Physical Education, 1976, 62 p. (P. Gollnick)

Exps were undertaken to determine the role of blood-borne carbohydrates (glucose, lactate, and pyruvate) on exercise tolerance and glycogen depletion in liver and skeletal muscle. These carbohydrates or saline were continuously infused into the jugular veins of rats while running varying times at 21 m/min. Blood glucose, lactate, or pyruvate were elevated during exercise while the respective substrate was infused. At exhaustion reduction of blood glucose was evident in saline (2.59 mM), lactate (3.78 mM), and pyruvate (3.16 mM) infused rats, but not in glucose infused animals (5.68 mM). Lactate was elevated at exhaustion in all conditions. Exercise sig increased plasma FFA in animals infused with saline (0.684 Eq/ml) when compared to rest (0.210 Eq/ml). Glucose and lactate addition to running rats depressed FFA levels (0.160 and 0.153 Eq/ml), respectively. Exercising rats infused with glucose used lower glycogen at a slower rate than saline infused rats; however, they appeared to depend on blood delivered glucose to a greater extent. A rapid decline in liver glycogen was evident in exercising rats receiving lactate or pyruvate. The results of this study demonstrate the importance of liver and muscle glycogen to the exercising animal.

665. DEMARCO, Cecelia A. Effects of mental practice when used at three stages of the skill learning process. M.S. in Physical Education, 1977, 62 p. (C. Gordon)

The study dealt with the relative effects of mental practice when used at the cognitive, intermediate and autonomous phases of skill learning. Ss were 55 women enrolled in university level conditioning classes. The novel skill used was the juggling of 2 tennis balls in the preferred hand. Mental practice consisted of the Ss watching the investigator juggle for 1 min, verbalizing what they observed taking place into a tape recorder, listening to their own verbalization replayed (2 min), and lying back with eyes closed visualizing themselves performing the task. Each of the Ss was randomly assigned to 1 of 3 groups which corresponded with the 3 phases of skill learning. A 1-way ANOVA was used to determine diffs in performance. Findings indicated that no. 1 of the 3 separate introductions of mental practice during skill learning resulted in a greater acquisition of skill than another.

666. EPPERSON, Steven W. Validation of the Reznick racquetball test. M.A. in Recreation, 1977, 48 p. (K. Penman)

The goodness of the Reznick Racquetball test was investigated. The test was comprised of 6 components, each of which had 3 trials with the entire test requiring approximately 40 min to administer. Ss were students enrolled in university level racquetball classes (N = 45 men and 45 women). The criterion used as a round robin tournament with W-L% and a formula (using points scored for a participant divided by points scored against them throughout the tournament) being scale scored and added to get the criterion figure. Results indicated that this test falls short in several areas but has potential to be a good test with modifications. The reliability of the test components was high so 2 of the 3 trials required in the test instructions were dropped which greatly reduced the overall testing time. Objectivity was acceptable for the test components and would be much improved with a few changes. It was shown that test scores were sig diff for men and women so the data were grouped and analyzed separately throughout the analysis. Stepwise R showed that 2 components for the men (forehand rally and shot placement back wall) and 2 for the women (forehand rally and power drive) sig indicated skill level.

667. KRUEGER, Nancy L. A cinematographical analysis of acceleration patterns produced by the medium and rocket running spring starts using female runners. M.S. in Physical Education, 1977, 56 p. (B. Bergemann)

The acceleration patterns produced by the medium and rocket running spring starts were compared. 14 female track athletes were selected for the study. Film analysis was used to obtain the horizontal acceleration of the S's pelvis from the set position to 30 yds. There was a sig diff between the acceleration produced by the 2 methods of sprint starting. The rocket start yielded shorter times to peak acceleration over 30 yds, greater peak acceleration over 30 yds, shorter 30-yd dash times, greater average velocity over 30 yds, and greater peak velocity values.

668. LANN, Jeffrey M. An historical study of parks and recreation development in Pullman, Washington. M.A. in Recreation, 1977, 108 p. (M. McMahon)
The history of the development of parks and REC in the city of Pullman, WA was investigated. An important factor crucial to parks and REC development originated in the town's frontier days when the populace oblivious to the ideas of social and cultural diffs established a community based on the traits of neighborliness, friendliness, and equality. The public parks and REC movement in Pullman evolved through the 3 major stages of conception, coordination, and consolidation. The formal history of the parks and REC movement began in 1903, the conception period, with the cultivation of the parks system. The period of coordination began in 1945, during which cooperative efforts of various organizations were of limited success. The efforts toward coordination finally culminated with the period of consolidation, 1960-1965, which resulted in an increased acceptance of the leisure concept for the city's inhabitants. It was found that the local parks and REC movement has paralleled and been influenced by the public REC movement in the US.

669. LEE, Martin J. Expressed values of varsity football players and non-football players. M.S. in Physical Education, 57 p. (R. Doornink)
Values of 3 groups of Ss who differed in their experiences of, and participation in football were compared. Ss were random samples (N=25 for each group) from a varsity university football team, university intramural participants, and students enrolled in activity classes who had never played any form of interscholastic football. Each S completed Form D of the Rokeach Value Survey. The data were analyzed in 2 sets, 1 in which all Ss were considered and 1 from which all black Ss were deleted. Primary analysis of the data was done by the median test. A secondary analysis was accomplished by 1-way ANOVA. Significant F ($p < .05$) ratios were examined by t-tests on all possible comparisons of means. It was concluded that there was no evidence to support the view that participation in football had any relationship to

expressed social and moral values, but that there was some relationship to certain competence values. It appeared that the values of varsity football players vary little from the normal male college population.

670. LITTLE, Neil G. The effect of acute pressure overload on selected metabolites of the in situ rat heart. Ph.D. in Physical Education, 57 p. (P. Gollnick)
The changes that took place in selected metabolites of the in situ rat heart subjected to acute external work were determined. Male Sprague-Dawley rats, under sodium pentobarbital anesthesis and maintained on positive pressure artificial respiration with room air, were subjected to acute constriction of the ascending aorta (AAC) for periods of 5, 10, 30, and 60 mins. Freeze clamped samples of the left ventricular myocardium were analyzed for adenosine triphosphate (ATP), phosphocrestine (CP), glucose-6-phosphate (C-6-P) malate (MAL), citrate (CIT), lactate (LA), pyruvate (PA), glycerol (COL), and glycogen (GLC). Blood samples were analyzed for PA, LA, and COL. Following AAC, PLVP was double that of control animal hearts, external cardiac work rates increased 92.4%, and carotid BP decreased 50%. There was no change in myocardial ATP or GLC content following AAC. After 5 mins of AAC, heart tissue PA, CIT, MAL, LA, and COL levels were elevated, whereas CP and C-6-P concentrations were less than control values. Thereafter, all blood and tissue metabolic levels measured were equal to or greater than control values. These data suggest that the energy requirements of the well oxygenated in situ rat heart subjected to acute pressure overload are met initially by augmented glycolysis, and subsequently by a progressive increase in aerobic metabolism.

671. MENDEZ, Pedro P. The effect of two training programs designed to improve sprinting velocity. M.S. in Physical Education, 1977, 34 p. (K. Penman)
The relative effectiveness of progressive resistance exercise and sprint training in the improvement of sprinting velocity was determined. 2 random groups of Ss (N=31) were formed: group I (N=16) participated in a wt training program using the Universal Real Runner, a progressive resistance exercise machine and group II (N=15) participated in a sprint training program. Ss were pre- and post-tested on the 60-yd dash, each time allowing 1 practice run by each S. The duration of the experiment was 7 wks, which included 20 periods of exercise. ANCOVA was used to determine sig of diffs between the 2 groups ($p < .05$). No sig diffs were

detected between the wt training and sprint training programs. Both training programs showed small but non-sig decreases in mean times for sprinting 60 yds.

672. NELSON, Linda J. Drag and performance analysis of a resistance device in swimming. M.S. in Physical Education, 1976, 53 p. (M. Adrian)
The diff in body resistance and body orientation on passively towed female Ss wearing and not wearing a resistance device was compared. In addition, a comparison of the training effect of using and not using a resistance device on 2 groups of college women was done. 1st 5 Ss were towed across a 25-yd pool at 3 ft/sec using strain gauge force transducers to measure resistance. 5 Ss towed at the same velocity were filmed through an underwater window in order to determine changes in body orientation with and without the device. 2nd, 16 female Ss were divided into 2 training groups with 1 group using and 1 group not using the device. The time for a 400-yd front crawl was the criterion for performance. Results indicated wearing the device tended to drop the lower half of the body deeper into the water, resistance due to the device alone ranged from 2.25 to 4.35 lb, or an average increase of 90.6% over resistance of the S without the device had no more influence on times for a 400-yd front crawl than training without the device given an equal time of training and there is evidence to suggest that a resistance device could be effective as a motivational tool in a training program.

673. RENNER, Ingebord. A cinematographical and electromyographical analysis of the underwater arm stroke of the front crawl. M.S. in Physical Education, 1977, 38 p. (B. Bergemann)
The study compared the insweep and outsweep phases of the underwater arm stroke and analyze the muscle action potentials generated in those phases. 5 intercollegiate swimmers served as Ss. All Ss performed 2 trials from the side view and 2 trials from the front view. Motion pictures were taken and were synchronized with electromyographical data. The stroke cycle of each trial was counted out frame by frame through an L & M stop action motion analyzer. The no. of frames for each trial was converted into time and these data were synchronized with the direct EMG data, recorded on a Physiograph, 6-channel electromyograph. The paper speed of the Physiograph was recorded at 5 cm/sec. Surface electrodes were used for the recording of the muscle action potentials. Various components of the underwater arm

stroke were analyzed. Analysis of data showed that in 3 out of 5 Ss the muscle action potentials of the triceps brachii compared to a 100% isometric contraction were greater during the outsweep phase than during the insweep phase. However, the contraction of the biceps occurred before the triceps muscle reacted. The clavicular head of the pectoralis major showed a minimal amount of activity in all Ss.

WAYNE STATE UNIVERSITY (W. Wasson)
DETROIT, MICHIGAN

674. GOLINKO, Nancy. The growth and development of modern dance as part of the physical education curriculum at the secondary level in Detroit Public Schools, 1925-1969. M.Ed. in Dance, 1977, 161 p. (G. Reid)
Educational philosophies, PE programs and modern dance art trends during the early 20th century influenced Detroit educators and prepared the way for dance in the PE curriculum. These events represented a dance curriculum which was organized by high school dance teachers and Detroit Board of Education supervisors and which was influenced by the relationship between the Detroit Board of Education and WSU. Modern dance grew from 1 class at Northwestern HS in 1925 to 18 HS dance groups in the Annual Spring Concert in 1969. The many classroom and performing experiences provided reflected the trends in modern dance outside the educational setting during this period.

WEST VIRGINIA UNIVERSITY (A. Ostrow)
MORGANTOWN, WEST VIRGINIA

675. BLACKSMITH, William A. The effect of systematic desensitization on pre-match anxiety states among collegiate wrestlers. Ed.D. in Physical Education, 1977, 162 p. (A. Ostrow)

676. DONNELLY, Joseph E. The relationship between biorhythms and human performance. Ed.D. in Physical Education, 1977, 64 p. (R. Kurucz)

677. DOUGHERTY, Julie A. Achievement motivation in relationship to goal setting behavior and attribution of success/failure in an archery task. M.S. in Physical Education, 1977, 86 p. (A. Ostrow)

678. FURCRON, John H. The utilization of a social attitude modification model to investigate the interaction effects of cooperation and competition while alternating their sequential order of presentation in a sport situation. Ed.D. in Physical Education, 1976, 114 p. (R. Kurucz)

679. GILSON, Kevin H. The effects of buclamase on the muscular soreness and muscular strength loss associated with the onset of intense physical activity. Ed.D. in Physical Education, 1976, 98 p. (R. Kurucz)

680. LIPKOVICH, M. Kathleen. A comparison of personality variables of achievement, aggression, and dominance among female physical education teachers at the elementary, secondary, and collegiate levels. Ed.D. in Physical Education, 1977, 206 p. (J. Douglas)

681. MONSEAU, Vincent F. Effect of sport involvement on self-concept. Ed.D. in Physical Education, 1977, 162 p. (W. Alsop)

682. WHITE, Craig C. The effect of participation in structured sport and structured nonsport upon the maturation and enculturation orientations of male high school sophomores and seniors. Ed.D. in Physical Education, 1977, 162 p. (W. Alsop)

WESTERN ILLINOIS UNIVERSITY (G. W. Hermann)
MACOMB, ILLINOIS

683. ALLISON, Ann S. A comparison of hostility levels of intramural basketball participants at Western Illinois University. M.S. in Physical Education, 1977, 35 p. (J. Colgate)

Hostility levels of men and women participating in intramural basketball were compared through data collected by means of a before- and after-game administration of 3 subscales of the Buss-Durkee Hostility-Guilt Inventory. Ss consisted of 6 groups: 54 women before competition, 60 women after competition, 58 men before competition, 64 men after competition, 55 men and women before competition, and 58 men and women after co-REC competition. 1-way ANOVA found no statistically sig diff ($p > .05$) among the men and women of the co-REC group when the total group was divided into the following 4 groups: women before competition, women after competition, men before competition, and men after competition. The mean hostility level decreased for men and increased for women from before the game to after the game although the diffs were not sig.

684. BARKER, Bonnie L. Behavior change in intercollegiate badminton players resulting from videotape intervention. M.S. in Physical Education, 1977, 72 p. (D. Phillips)
The purpose was to determine what effect the timing of verbal comments in relation to the replay of videotape had on the ability of 20 highly-skilled intercollegiate badminton players in increasing the effectiveness of their play. Ss were ranked as to playing ability by the coach and within each flight randomly assigned to 1 of 4 exp groups or a control group. Exp groups were randomly assigned to 1 of the following videotape interventions: tape of coach's comments before video replay, during video replay, after video replay and video replay followed by direct report to the coach for comments. Baseline rates and pre-exp records of serve and return of serve effectiveness were recorded during the 1st wk. During wk 2 exp interventions consisted of videotaping all Ss during an 8 point game at each practice while the coach made an audio tape containing comments on the play. Ss viewed their previous night's game before the next practice and the recorded coach's comments were played at the appropriate intervening time. The same procedures were followed during wk 3 as for wk 1. The results of a 5 x 4 x 3 repeated measures randomized block factorial design indicated no sig diff in serve and return of serve effectiveness due to any of the videotape interventions.

685. BURDICK, Kevin J. Effects of massed and distributed practice on the learning and retention of a novel gross motor skill. M.S. in Physical Education, 1977, 30 p. (W. Lakie)
College-age males (N=45), utilizing the underhand basketball freethrow, were randomly assigned 1 of the following practice conditions: massed practice (MP), distributed practice 1 (DP1), and distributed practice 2 (DP2). The exp consisted of a pre-test, practice phase, post-test and retention test. Initially each group was administered a 20 shot pre-test with the practice phase beginning on the following day. The MP group practiced 80 consecutive freethrows with no rest between trials. The DP1 group practiced 4 sets of 20 shots each with 5 mins rest between sets. The DP2 group practiced 4 sets of 20 shots each with 24 hrs rest between sets. Immediately after the final 20 shots for the MP group, 5 mins

after the DP1 group, and 24 hrs after the DP2 group completed their last set, a post-test was administered. 1 mo after the post-test, a retention test was administered. 2-way ANCOVA with repeated measures and a dependent t-test found no sig diffs ($p > .05$) between the gains of the various groups or the gains of the post-test and retention test. No sig interaction occurred within each group gaining similarly across trials. There were sig gains ($p < .05$) from the pre-test to the post-test.

686. CLAYTON, Kathryn M. Development of a physical activity program for overnight mentally retarded children. M.S. in Physical Education, 1977, 64 p. (J. Robertson)
A high intensity physical activity program for the overweight mentally retarded child, ages 8-21 yrs, was developed utilizing Meredith's Ht-Wt Chart and Seltzer and Mayer's Triceps Skinfold Norms to classify the overweight Ss (N=6). Each S received an incentive chart during the 2nd wk of the 12-wk activity program. Seals were awarded to those who completed the required repetition of exercises. S's wt was recorded 5 times and skinfold readings were recorded 3 times. Certificates were awarded to those Ss who showed favorable wt and % of body fat change after each recording. In addition to favorable wt and % of body fat change during the 12-wk program, other observable changes included: improved motor coordination; improved body function; increased enjoyment of team efforts; and S's enthusiasm for their activity time increased.

687. GILLETTE, Diane M. The effect of isokinetic training on strength and girth measurements of the upper arm of adolescent girls. M.S. in Physical Education, 1977, 41 p. (E. Chapman)
The study sought to determine the effect of high-resistance, low-rep isokinetic training on the strength and hypertrophy of the elbow extensors of adolescent girls, ages 14 to 16. Ss (N=26) were randomly divided into a control and an exp group and all were measured on the non-preferred arm for elbow extension strength, upper arm girth, and triceps skinfold. The suprailiac skinfold was also measured to monitor changes in body fat. Measurements were taken 2 days prior to and 2 days following the training period. The exp group trained with the non-preferred arm 3 times wkly for 4 wks on an isokinetic device. The exercise consisted of 2 sets of 6 reps through the full range of elbow extension. Pearson r was used to determine the influence of initial scores on gains and a dependent t-test examined the diff of $\bar{X}$ gains within groups.

There were no sig strength gains and no sig diff in upper arm girth in either group. Neither the triceps nor suprailiac skinfolds showed sig gains within either group.

688. GOARD, Donald J. Effects of overlearning on the retention of stabilometer balancing skill in sixth grade boys. M.S. in Physical Education, 1977, 65 p. (E. Docherty)
This study examined the effects of 4° of overlearning on the retention of stabilometer balancing after intervals of 1 wk and 4 wks. Ss were 80 6th grade boys who practiced balancing on a stabilometer until a predetermined learning criterion was reached. They were then assigned either 0, 50, 100, or 200% overlearning practice. ½ of the Ss were retested after 1 wk and the other ½ after 4 wks. 5 measures were used to compare the levels of skill retention among the 8 groups. Loss score and saving score failed to reveal any sig diff among the 8 groups for either degree of overlearning or length of retention interval. The other measures, recall, relearning, and % of saving score, in all cases indicated that 200% overlearning produces sig better retention of skill than does no overlearning. In addition, the immediate recall scores of 200% Ss were superior to those of the 50% Ss. The 100 and 200% Ss showed sig better recall than the 0% Ss after a brief warm-up period.

689. HEALY, Jim. Effects of various approaches on the vertical jump in volleyball. M.S. in Physical Education, 1977, 28 p. (D. Mapes)
The purpose was to determine the specific effects the patterns of no approach, 1/2-step approach, and 2-step approach have on the performance of the vertical jump. Ss were 43 females and 38 males enrolled in the 1977 Mid-America Region Olympic Development Volleyball Camp. All Ss were tested on 3 diff vertical jump approaches on 2 successive days. A 2 X 3 ANOVA with repeated measures was employed to determine the interaction of the 3 approaches and the sex of the participants. A Newman-Keuls Test was used to determine where statistically sig diffs between approaches existed ($p = .05$). The diffs between the combined male and female group $\bar{X}$s of the 3 types of vertical jumps were sig. There was a sig diff between the combined male and female group $\bar{X}$s of no approach and 1/2-step approach, of no approach and 2-step approach, and of 1/2-step approach and 2-step approach. It was concluded that the ht of the vertical jump with 1/2-step approach is greater than with no approach and the 2-step approach results in greater ht than with a 1/2-step approach.

690. HENCKEN, Maryanne G. Factors influencing the participation of high school students in Young Men's Christian Association program offerings. M.S. in Park and Recreation Administration, 1977, 86 p. (G. Harker)

Ss were 100 HS students randomly selected from each PE class at Macomb SHS. Each S was individually interviewed during class to determine the sig of several factors influencing their participation in REC activities offered by the YMCA. Results of the interviews were hand tabulated and analyzed with total responses calculated and %s computed. The majority of the programs being offered were not of high interest to HS age youth although the Ss were basically aware of the YMCA programs and activities. Those Ss who were aware of the program which was specified on the survey participated no more frequently in activities than did those not aware of the program. Data suggested that the majority of the activities are performed spontaneously by the Ss and the majority of activities which HS students participate in regularly do not require advance registration. Programs were not offered by the YMCA at the times most preferred by the students--Saturdays. Finally, the study revealed a relationship between students' participation in activities and the participation of their peers, as students participated with their friends in over 70% of the activities listed.

691. KEHL, Kim R. Isokinetic training and the vertical jump. M.S. in Physical Education, 1977, 39 p. (D. Mapes)

The effect of 3 diff nos. of reps of parallel-squat exercises performed isokinetically on the performance of the vertical jump was examined. Ss, 34 male college students, were randomly assigned to 1 of 4 groups. The isokinetic Mini-gym Leaper was used as the device for training. The vertical jump test was administered prior to the start and at the end of the 6-wk training period. All trained groups met 3 times a wk for 6 wks and worked at a high speed of 2 ft per sec. Group I was the control group and did not participate in any training program. Group II performed 2 sets of 10 reps with a 2-min rest between sets. Group III performed 2 sets of 20 reps with a 2-min rest between sets. Group IV performed 2 sets of 30 reps with a 2-min rest between sets. Pearson $\underline{r}$, a dependent $\underline{t}$-test, and 1-way ANOVA were used to analyze gain scores for statistical sig (p = .05). Results indicated that vertical jump performance can be improved through isokinetic training at high speed when training 3 times a wk for

6 wks using either 2 sets of 10 reps, 2 sets of 20 reps, or 2 sets of 30 reps.

692. KHAYAMBASHI, Khalil. Effects of approaches and takeoffs on the vertical jump in volleyball. M.S. in Physical Education, 1977, 34 p. (D. Mapes)

The study sought to determine the effect that different types of approaches and styles of take-off have on the ht of the vertical jump. Ss were 15 male and 15 female volleyball players at WIU. Jump tests using 3 types of approach and 2 styles of take-off were administered on 4 separate days with 3 test periods held each day. A 3 X 2 X 2 ANOVA with repeated measures, an ANOVA of simple effects and the Newman-Keuls Test were utilized to analyze the data ($p = .05$). The following findings were found to be statistically sig: the diffs between male and female jump scores across approaches; the diffs between combined jump scores of gender and take-off for the 3 types of approaches; the diffs between combined jump scores of gender and approach for 2 styles of take-off; the interaction between gender and approach; and the interaction between approach and take-off. The following conclusions are indicated: for males, as the no. of steps in the approach increased (from 2 to 4), the ht of the jump also increased but for females this had no effect; for males and females and for all approaches, the ht of the jump that followed the pre-jump take-off was greater than the ht of the jump following the step-close take-off; and the male players jumped higher than the female players.

693. KOEFER, Wolf-Dieter. The physiological profile of a master's swimming champion. 1977, 63 p. (G. Hermann and D. Mapes)

The physiological characteristics of a male master's swimming champion, age 52, were measured and evaluated to establish a standard of comparison for future study and to determine the correspondence of the measured physiological variables to selected normal values of sedentary persons. The data collected on the S were in the areas of body composition, blood features, PWC, and pulmonary function. The following information is indicated based on the findings: the S has apparently compensated for the characteristic increase in fat with aging: the relatively low systolic and diastolic measurements of the S demonstrate that there has been no increase in BP; stressful endurance training has had no observable detrimental effect on the S's blood constituents; the exceptionally high max O_2 intake of the S suggests a cessation in the decline of PWC; and the results of the static and dynamic pulmonary function tests performed on the S demonstrated that the S's respiratory apparatus had adapted to his training regimen.

694. KOPPEN, Lorrie E. An investigation of administrative structures for girls' interscholastic programs in selected Illinois high schools. M.S. in Physical Education, 1977, 72 p. (K. Pearson)
Questionnaires were sent to 100 directors of girls' athletic programs in IL HSs during the 1976-77 school year to determine the administrative structure of the girls' interscholastic HS athletic programs in schools with larger than 750 enrollment. Findings appear to warrant the following conclusions: a male is in total or partial control of the majority of girls' athletic programs in IL HSs whose enrollments exceed 750 students; while the male is in control of the girls' athletic program, many of the duties of the athletic director are delegated to a female girls' athletic coordinator or a member of the girls' coaching staff; small power functions are delegated to a female most frequently, moderate power functions are delegated less frequently, and great power functions are delegated to a female least frequently; female girls' coordinators and coaching staffs are being given much responsibility with little authority or power; and females do not play a sufficient role in the administration of their own programs.

695. KURAS, Edward T. Karate: Technique sequence, interval training, and circulorespiratory endurance. M.S. in Physical Education, 1977. (D. Mapes)
The purpose was to determine the effects of 2 sequenced programs of karate techniques in the format of interval training. Ss were 18 advanced members of the WIU Karate Club. Using radiotelemetry and physiograph equipment, EKGs of the Ss were monitored during intervals of work and rest. 2 programs of interval training with karate techniques, termed sequence 1 and sequence 2, were given to determine the HRs during the periods of work and rest for each S. Sequence 1 consisted of karate techniques starting from stationary techniques and progressing to triple combinations. Sequence 2, executed in the reverse order of sequence 1, was initiated with techniques in triple combinations with forward movements and proceeded to single techniques with stationary movements. ANOVA with repeated measures was used to determine whether the diff between $\overline{X}$ HRs during rest and work intervals was statistically sig ($p = .05$). The findings showed that the diff between $\overline{X}$ HRs during intervals of rest and work for

sequence 1 and sequence 2 was not sig. The diff between the $\bar{X}$ HRs during intervals of rest and work for both sequences was sig.

696. MATTESSICH, Dominick A. The relationship of social class and aggression in athletes and nonathletes at the University of Maryland. M.S. in Physical Education, 1977, 63 p. (W. Lakie)
The study sought to determine the relationship between social class and aggression in athletes and nonathletes and the diffs in aggression in athletes and nonathletes when social class is held constant. Ss were 50 male varsity athletes and 50 male nonathletes randomly selected at the University of MD. The Index of Status Characteristics was administered to measure social class and the resulting scores placed the Ss into high, middle, and low social class groups. The Buss-Durkee Hostility-Guilt Inventory was used to measure aggression with a high score indicating a high degree of aggression. 1-way ANOVA indicated there were no statistically sig diffs in aggression scores between athletes and nonathletes, among the social class groups in the athletes and nonathletes, and among the 3 social class groups in athletes and nonathletes ($p > .05$). However, Pearson r revealed a high relationship ($r = .95$) between social class and aggression scores for athletes in the low social class group. ANCOVA indicated there was a sig diff between the groups when social class was held constant, in favor of the athletes' low social class group ($p < .05$).

697. MILLER, Cindy. A comparison between postural divergencies and motor achievement in selected motor skills of fifth and sixth grade boys. M.S. in Physical Education, 1977, 44 p. (J. Robertson)
The posture of 32 boys was photographed from both posterior and lateral views to compare postural divergencies and motor achievement in selected motor skills of 5th- and 6th-grade boys. 3 persons from the faculty of Women's PE at WIU rated each child's posture. ANOVA was used to establish a criterion score for each boy, which represented his postural evaluation score. Performance scores were collected on each boy for the softball throw for distance, the jump and reach, the zig-zag run and the standing broad jump. A Pearson r was computed to determine the relationship between the postural deviation scores and the performances on each of the 4 selected skills. Results indicated that there were slight positive, but nonsig relationships between the postural evaluation scores and the softball throw for

distance, the jump and reach and the standing broad jump. However, the negative r between posture and the performance on the zig-zag run was sig ($p < .05$), revealing a relationship between posture and the skills involved in the performance of this particular skill. The researcher concluded that there is a tendency of posture to be related to some motor performances.

698. ORBAN, Kathy. An analysis of the attitudes held by males and females in principles of coaching classes at Western Illinois University toward certain questionable practices in athletics. M.S. in Physical Education, 1977, 39 p. (K. Pearson)

The purpose was to examine the attitudes held by 51 male and female students enrolled in Principles of Coaching classes at WIU toward certain questionable practices in athletics. Attitudes were surveyed concerning questionable practices in 3 categories: team sports situations, individual sports situations; and general sports situations. The survey instrument, developed by Hattig in 1975, consisted of 47 situation-response statements in which the Ss were asked to check 1 of 5 responses ranging from strongly approve to strongly disapprove. Mann-Whitney U Test computations yielded a Z score of 2.71 which is sig ($p < .01$). Female Ss tended to disapprove more strongly of the questionable practices than male Ss. Each of the sub-groups in the sample had a $\bar{X}$ response which indicated general disapproval of the questionable practices. Within the male/female sub-groups, the strongest disapproval was shown by the females interested in working with team sports. Both females and males interested in working with team sports evidenced greater disapproval of the questionable practices than the males and females interested in individual sports.

699. RAAB, Diane M. The effects of thermal environment and aerobic fitness on the body temperature of resting college women. M.S. in Physical Education, 1977, 59 p. E. Chapman)

The effect of aerobic fitness upon the females' ability to maintain a constant body temp while resting in a hot, dry environment was examined. The exp design involved a high aerobic fitness group (N=7) and a low aerobic fitness group (N=9) as determined by a running treadmill test for max VO_2. VO_2 values ranged from 71-49.5 ml/kg for the highly fit group and 42.62-36.34 ml/kg for the low fit group. Reactions of the high and low aerobic fitness Ss were measured while resting 2 hrs in a hot, dry environment of 48°C and 25%

relative humidity. Measurements of HR, BP, oral temp, thigh temp, and trunk temp were recorded every 15 mins. An average of skin temp was calculated to derive $\overline{X}$ skin temp. A weighted combination of oral and skin temp was computed for $\overline{X}$ body temp. A 2 way ANOVA with repeated measures was used to analyze high and low fitness groups across time. No sig diff between groups was demonstrated for any of the variables studied. A sig interaction for fitness and time was demonstrated by $\overline{X}$ skin temp.

700. RUSIN, Clifford R. An evaluation of and comparison between the status of existing practices, policies, and procedures of men's, women's and joint intramural programs in Illinois colleges and universities. M.S. in Physical Education, 1977, 85 p. (J. Colgate)

The purposes were to evaluate the status of existing practices, policies, and procedures of the men's, women's, and joint intramural sports programs of 4-yr colleges and universities in the state of IL, compare these evaluations of status, within and between men's, women's, and joint programs at 3 levels of enrollment--small, medium, and large, and make comparisons with previous studies conducted in KS and PA. The survey instrument used was developed by Ridgeway in 1970. All women's and men's intramural directors in 4-yr IL colleges and universities were sent the instrument with 67.8% returning the questionnaire. Conclusions based on the findings showed that men's and joint programs met the recommended standards more adequately than the women's programs, schools of higher enrollment levels attained higher scores, the women's programs in PA met the recommended standards more adequately than for women's programs in IL, and men's programs in IL met the recommended standards more adequately than PA, but less than KS.

701. SCHROEDER, Peter P. A study of the professional life of Raymond W. Hanson while at Western Illinois University. M.S. in Physical Education, 1977, 59 p. (G. Hermann)

The basic instrument for the procurement of the needed information was the personal interview. The investigator interviewed many of the people who knew, worked with and were friends of Hanson while at WIU. Also used were periodicals such as the Sequel, the Western Courier and the Macomb Daily Journal. Hanson was employed by Western from 1926 until 1964, and these 38 yrs were divided into 2 distinct phases. Hanson was a coach, PE teacher and AD from 1926 from 1926 until 1942, when he left to serve in the Marine Corps during World War II. When he returned to the campus in 1946, Hanson coached for several yrs but then performed the duties of AD and chairman until he retired in 1964. This study found that Hanson achieved 3 major types of accomplishments during his tenure at WIU. He contributed to the promotion of amateur athletics in the US. He also made major contributions that involved WIU exclusively, in addition to his many personal accomplishments.

702. STANEK, Pamela J. A study of interpersonal behavior characteristics of male and female coaches. M.S. in Physical Education, 1977, 56 p. (B. Yeager)
The Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B) questionnaire was sent to 393 coaches to examine the interpersonal behavior characteristics of male and female collegiate coaches in small and large colleges. The 204 returned questionnaires were hand scored and then analyzed on 2 aspects of each of the 3 interpersonal needs defined by Schutz: inclusion, control, and affection. The SPSS ANOVA program was used. Findings indicated that 2 variables of the FIRO-B were sig ($p < .05$). "Expressed inclusion" was found to be sig when comparisons were made by sex and by the interaction of sex and school size. Small college coaches scored higher on "expressed inclusion" than large college coaches, and male-small college coaches also scored higher than female-small college coaches. Sex was indicated to be a sig factor in comparisons made on "expressed control" with males scoring considerably higher than females.

703. TORDELLA, Mary A. An instrument to appraise attitudes of college students toward euthanasia. M.S. in Health Education, 1977, 52 p. (J. Neutens)
The Thurstone method of equal-appearing intervals was utilized to construct a valid and reliable instrument capable of appraising attitudes of college students toward euthanasia. Procedures included: collection of attitudinal statements by means of an attitude-object test from college students to derive items for the instrument; editing and compiling the attitudinal statements; weighting each statement by a jury of judges; construction of a scale with approximately 20-22 statements ranging from most unfavorable to most favorable; and a test-retest administration of the instrument to a group of college students to determine the reliability coefficient by means of a Pearson r. Content validity of the instrument was determined through 2 measures: all attitude statements were derived from college students for whom the scale was intended; and a jury of judges was used to scale each

edited attitude statement. Data used in the study included median values and the interquartile range for each edited statement. It was concluded that a valid and reliable instrument capable of appraising college students' attitudes toward euthanasia was constructed. This scale provides educators at the college level with an instrument to assess attitudes toward euthanasia, preceding and/or following an educational experience.

704. TRUELOVE, Connie J. The effect of participation in a basketball game on the hostility levels of high school female athletes and coaches. M.S. in Physical Education, 1977, 44 p. (B. Yeager)
The Buss-Durkee Hostility-Guilt Inventory was used to determine the effect of participation in a basketball game on the hostility levels of female athletes (N=225) and coaches (N=24) involved in 4 IL HS regional basketball tournaments. 3 sub-scales of the Inventory were administered to 12 coaches before the game, 12 coaches after the game, 110 players before the game, and 115 players after the game. A 1-way ANOVA was used to determine if any sig diffs existed between the: hostility level of coaches who took the before-game test and coaches who took the after-game test; hostility level of players who took the before-game test and players who took the after-game test; hostility level of the after-game winning coaches and the after-game losing coaches; and hostility level of the after-game winning players and the after-game losing players. The analysis revealed no sig results ($p > .05$) among the 4 groups.

705. VAN BUSKIRK, Kim E. A study of the self-concept of freshman intercollegiate softball players. M.S. in Physical Education, 1977, 53 p. (B. Yeager)
The Gough Adjective Check List (ACL) was utilized to determine if fresh athletes would redefine themselves to more nearly approach the characteristics ascribed to them by their peers on the softball team. Ss were the members of the women's intercollegiate softball team at WIU. There were 2 groups: Ss who were fresh members of the team; and peers who were the Ss' teammates. All Ss were asked to fill out the ACL with each fresh completing the instrument twice. The 1st testing period was early in the season and the 2nd occurred at the end of the regular season. Ss were to check only those adjectives which they perceived to be self-descriptive. Peers filled out the ACL early in the season indicating their perception of each fresh. The Pearson $\underline{r}$ was used in a $\underline{r}$ matrix to determine if a sig relationship existed between

the fresh's early and post scores or between the fresh's post and peers' scores. The following 3 scales showed a sig relationship on the fresh early-fresh post rs ($p < .05$); total no. of adjectives checked; no. of unfavorable adjectives checked; and exhibition. No scales on the fresh post-peers' rs were sig.

706. WESTBERG, Jerry. The effect of vitamin E on oxygen consumption. M.S. in Physical Education, 1977, 32 p. (E. Chapman)

The study sought to determine the effect 400 IU of vitamin E has on submax O_2 consumption and rest metabolism. Ss consisted of 26 male and female college students. After being tested for initial level of O_2 consumption during rest using a Benedict-Roth metabolator and for submax O_2 consumption during a 5-min walk on a motor-driven treadmill at 2 mph, 5° incline, Ss were assigned by random process to either an exp or a control group. The exp group was given 400 IU of vitamin E daily for 1 wk while the control group was given the placebo, kelp. The exp was a double blind design in which neither the experimenter nor the Ss were aware of the group to which the Ss were assigned. At the end of 1 wk, both groups were retested for resting and submax O_2 consumption. A dependent t-test showed that within group gains for both tests were not statistically sig ($p > .05$). Since neither group showed sig within group gains on either submax O_2 consumption or rest metabolism, no further analysis was employed.

WESTERN KENTUCKY UNIVERSITY (Thad R. Crews)
BOWLING GREEN, KENTUCKY

707. ATKINS, Kenneth S. A recent history of subject philosophy and pedagogical style in physical education: A case study in curriculum change. M.A. in Education, 1977, 66 p. (J. Jones)

The JOHPER was subjected to a content analysis for the period 1963-1973 using subject philosophy, pedagogical style, and contributors as the content indicators. The study examines how curriculum change and subject content reflect change and ideology in the wider society. Justifications for teaching PE have shifted from a traditional emphasis on fitness and character training to education for leisure and lifetime sports and the desirability of self-actualization via movement education. The study argues that those changes parallel a move in the requirements of the social and economic structure, from mass wage labor to a highly differentiated work force, and the utilization of leisure as a means of social control in a period of change in work structure and patterns. Theoretically, it suggests that Ss within the curriculum delimit and frame the notions available to individuals and groups. Thus, it attempts to show how structural relationships are reproduced in the consciousness of individuals, by arguing the curriculum content limits consciousness development as well as transmitting specific forms of ideology; furthermore, S maintenance is achieved by the sanctioning of dominant ideology via the process of curriculum change, in terms of S philosophy and pedagogical style.

708. AUNE, Michael J. Recreation needs of pre-adolescent girls in selected public schools. M.S. in Recreation, 1977, 53 p. (A. Little)

There was a need to determine the REC needs of girls in the pre-adolescent age range of 9 through 14 yrs old so that municipal REC professionals may program activities to meet the desires of this specific population. In order to do this, a testing instrument was developed. The test, a REC preference schedule, used closed questions exclusively, unlike many of the available checklist surveys. The REC preference schedule was modeled after the EPPS. The new test, containing 100 questions, utilized 10 REC activity categories. It was checked for reliability and validity, then administered to 148 pre-adolescent girls enrolled in 3 ELE schools. A trend appeared that indicated pre-adolescent girls have a strong preference to engage in outdoor and nature activities that provide aesthetic qualities. They also desire social activities and sports activities that allow their individual abilities to surface. There was a marked rejection of non-active games and crafts and hobbies and a similar disinterest in dramatics. There appeared to be a middle-of-the-road attitude toward music, team sports and athletics, special events, and active games.

709. HATCHER, Graham. Correlation of aggression and style of play among tennis players. M.S. in Physical Education, 1977, 58 p. (T. Crews)

26 male tennis team members competed against the same player under match-like conditions and were rated by a tennis expert according to their style of play. The instrument used to rate the Ss was the Expert's Rating Scale, a 9 point scale indicating a tennis player's aggressive intentions. A Copy of Form AA of the PRF was completed by each S prior to the expert's observation. Statistical analysis of the data

consisted of determining a $\overline{X}$ score for each S's style of play and correlating that with the raw score for the aggression scale of the PRF. The analysis revealed no sig correlation between level of aggression and style of play of the tennis players.

710. Kohl, Robert M. Bilateral transfer as a function of mental imagery and physical rehearsal. M.S. in Physical Education, 1977, 62 p. (S. Laney)
60 right-handed males were randomly placed in 1 of 3 groups: 2 experimental; mental imagery and physical rehearsal, and a control. Each exp S, respective to assigned group, had 1 right hand distributive practice condition with rotary pursuit. Following an intermission, all Ss performed rotary pursuit with the left hand. The control group's procedure was identical to both exp groups, with exception of recitation of multiplication tables being substituted for right hand rotary pursuit practice. It was determined, within the limits of this study, that mental imagery and physical rehearsal sig facilitated bilateral transfer. The combined effects of treatments with left hand tracking acquisition established a direction of sig ranking the mental imagery group superior to the physical rehearsal group, and physical rehearsal group to the control group.

711. NASE, Rella B. Laterality: Motor learning and the non-dominant hand. M.A. in Education, 1977, 37 p. (S. Laney)
Ss were female undergraduates (N=12). 1/2 of the sample was right-hand dominant and 1/2 was left-hand dominant. Ss were required to complete 12 exp sessions within a 4 wk period. At each session the Ss performed the exp task of juggling 2 balls in the non-dominant hand for 2 periods of 3 mins. Performances were scored using the dichotomous factors of catches and trials. Statistical analysis of data revealed no sig diff between motor learning displayed by sinistrals as compared to dextrals in performing a novel motor task with the non-dominant hand.

PERIODICALS REVIEWED

*Acta Medica Scandinavica
Acta Orthopaedica Scandinavica
*Acta Paediatrica Scandinavica
*Acta Physiologica Scandinavica
*American Corrective Therapy Journal
American Family Physician
*American Heart Journal
American Journal of Anatomy
*American Journal of Cardiology
*American Journal of Clinical Nutrition
*American Journal of Epidemiology
*American Journal of Human Genetics
*American Journal of the Medical Sciences
*American Journal of Medicine
*American Journal of Nursing
*American Journal of Orthopsychiatry
*American Journal of Physical Anthropology
*American Journal of Physical Medicine
*American Journal of Physiology
*American Journal of Psychiatry
*American Journal of Psychology
*American Journal of Public Health
American Journal of Tropical Medicine and Hygiene
*American Review of Respiratory Diseases
American Sociological Review
Anatomical Record
*Annals of Human Biology
*Annals of Human Genetics
Annals of Internal Medicine
*Annals of the New York Academy of Sciences
*Archives of Environmental Health
*Archives of Internal Medicine
*Archives of Physical Medicine and Rehabilitation
Archives of Surgery
Australian Journal of Experimental Biology and Medical Science
*Aviation, Space, and Environmental Medicine
British Heart Journal
*British Journal of Industrial Medicine
*British Journal of Nutrition
*British Journal of Preventive and Social Medicine
*British Journal of Psychiatry
British Journal of Psychology
*British Medical Bulletin
*British Medical Journal
*Canadian Journal of Physiology and Pharmacology
Candadian Journal of Psychology
*Canadian Journal of Public Health
*Child Development
*Child Study Journal
*Circulation
*Clinical Science and Molecular Medicine
Community Mental Health Journal
*Danish Medical Bulletin
*Diabetes
*Educational and Psychological Measurements
*Ergonomics
*European Journal of Applied Physiology and Occupational Physiology
FDA Consumer (Papers)
*Federation Proceedings

*Periodicals marked with an asterisk have research reports listed in Part II—Bibliography of this issue of *Completed Research*.

Genetic Psychology Monographs
Geriatrics
*Government Reports Announcements and Index
*Growth
*Health Education
*Health Education Journal
Home Economics Research Journal
*Human Biology
*Human Factors
*Indian Journal of Medical Research
International Journal of the Addictions
*International Journal of Health Education
*International Journal of Occupational Health and Safety (formerly Industrial Medicine and Surgery)
*International Journal of Social Psychiatry
*International Review of Sport Sociology
Japanese Journal of Physiology
John's Hopkins Medical Journal
Journal of the American College Health Association
*Journal of the American Dental Association
*Journal of the American Dietetic Association
*Journal of the American Medical Association
*Journal of Anatomy
*Journal of Applied Physiology
*Journal of Applied Psychology
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*Journal of Bone and Joint Surgery
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Journal of Comparative and Physiological Psychology
*Journal of Educational Psychology
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Journal of Experimental Biology
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Journal of Experimental Psychology: Human Perception and Performance
*Journal of General Psychology
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*Journal of Gerontology
*Journal of Health and Social Behavior
Journal of Heredity
Journal of Laboratory and Clinical Medicine
*Journal of Leisure Research
*Journal of the Maine Medical Association
*Journal of Motor Behavior
*Journal of Nervous and Mental Disease
Journal of Neurophysiology
*Journal of Nutrition
Journal of Occupational Medicine
*Journal of Pediatrics
Journal of Personality
*Journal of Physical Education
*Journal of Physiology
*Journal of Psychology
*Journal of School Health
Journal of Social Psychology
*Journal of Sports Medicine and Physical Fitness
*Journal of Studies on Alcohol
Journal of Teacher Education
*Journal of Tropical Medicine and Hygiene
Lancet
*Leisure Sciences
*Medicine and Science in Sports

*Military Medicine
*Monographs of the Society for Research in Child Development
*Nature
*New England Journal of Medicine
*New York State Journal of Medicine
Nursing Outlook
Nursing Research
*Nutrition Reviews
Parks and Recreation
*Pediatrics
*Perceptual and Motor Skills
*Physical Educator
*Physical Therapy
*Physiological Reviews
*Postgraduate Medicine
*Practitioner
*Proceedings of the National College Physical Education Association for Men
*Proceedings of the Nutrition Society
*Proceedings of the Society for Experimental Biology and Medicine
Psychoanalytic Review
*Psychological Bulletin
*Psychological Review
*Psychology in the Schools
*Psychosomatic Medicine
*Public Health Reports (Formerly Health Services Reports)
*Quarterly Journal of Experimental Physiology and Cognate Medical Sciences
*Quarterly Journal of Experimental Psychology
Quarterly Review of Biology
Research Bulletin of the NEA
*Research Quarterly, AAHPER
Revue Canadienne de Biologie
*Rheumatology and Rehabilitation
Royal Society of Health Journal
*Scandinavian Journal of Clinical & Laboratory Investigation
*Science
*Society and Leisure
Sociological Review
Sociology and Social Research
Sociometry
*South African Medical Journal
Southern Medical Journal
*Sportwissenschaft
*Stadion: Journal of the History of Sport and Physical Education
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*Therapeutic Recreation Journal
*Western Journal of Medicine

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